22.0.5.2019

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Strathbogie shire

BENALLA RURAL CITY

TOWONG SHIRE COUNCIL

Murrindindi Shire Council

Carbon Crunching Councils: Business Case for Shared GHG Inventory Platform

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Contents

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This report is intended solely for internal use within the Project Steering Group and not for external parties.

VERSION CONTROL RECORD

Version	Date	Author/Editor	Reviewed by	Description of Change
V1.0	09/04/2019	Julianna Bedggood		Structure
V2.0	08/05/2019	Juliana		Inclusion of provider proposals
V2.1	20/05/2019	Natalija		Review of changes made in V2.0
vA.0	20/05/2019	Juliana Bedggood & Natalija Baban / Roohi Ghelani	Hannah Meade	Business Case for Carbon Crunching Councils
VA.1	21/05/2019	Hannah Meade		New version shared with CCC via Dropbox
VA.2	22/05/2019	Juliana Bedggood	Hannah Meade	Edits made after CCC review

Carbon Crunching Councils: Business Case for Shared GHG Inventory Platform

1. Introduction

This section provides a background overview of the project and approach to identifying and shortlisting suppliers.

The Carbon Crunching Councils (CCC) is a collaboration between Strathbogie Shire Council, Benalla Rural City Council, Murrundindi Shire Council and Towong Shire Council. They have a project under the Collaborative Council – Sustainability Fund Partnership (CCSFP) Program which is led by Strathbogie Shire Council.

The CCC program involved two phases. The first phase was carried out by CarbonetiX with the aim to review the utilities data under each Council's remit to uncover issues with the data and invoicing, as well as make recommendations (see Appendix F).

Ndevr Environmental was engaged to carry out the second phase of the program with the aim to undertake the research and shortlisting of tools for a shared greenhouse gas (GHG) inventory capture and calculation method suitable for implementation by the CCC.

This report constitutes the deliverable of phase two of the CCC program. It provides an overview of the project findings and the basis for the business case for Councils to put forward to secure internal funding to establish a GHG inventory platform.

1.1. Project Overview

Phase two of the project involved an iterative and collaborative process between Ndevr Environmental and the Project Steering Group (PSG), the main stages being:

a) **Identify councils needs.** Firstly, Ndevr Environmental conducted research to identify available GHG inventory tools and software. Then, a survey was conducted via SurveyMonkey of relevant Council stakeholders to determine Council requirements and Key Performance Indicators (KPIs). The criteria and the weighting assigned by survey respondents can be seen in Figure 1. The most important criterion was automation of data collation, calculation and reporting as well as value for money due to Councils' resource issues.

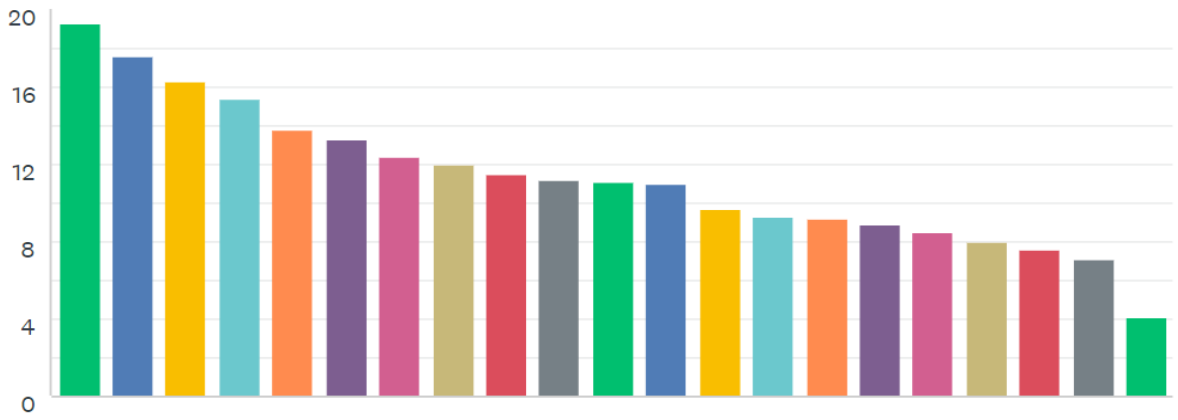

Figure 1: Weighted criteria used for the initial shortlist of GHG inventory tools

**Order from left to right: Automatic data collation, automatic GHG inventory calculation, automatic reporting, value for money, fleet data, multiple users, tracking performance over time, communication with staff, investigating data manually, waste data, water data, identification of improvement opportunities, tracking performance against targets, assisting understanding of energy usage, compliance with mandatory standards (e.g. National Greenhouse and Energy Reporting Scheme), support services, output functionality, bill validation and payment, forecasting capability, oversight by provider, compliance with voluntary schemes (e.g. National Carbon Offset Standard).*

b) **Identify available platforms and providers.** Ndevr Environmental then conducted reviews of the available tools and software via desktop research, communications with providers and external stakeholder feedback. A filtering process based on the weighted criteria from the first phase created a shortlist of suitable providers. Summary information and rankings of the shortlisted providers, as well as the exclusions, was supplied to the PSG (see Appendix A).

c) **Shortlist to the most suitable for demonstrations.** The PSG used the aforementioned information to select the providers they would like to see a demonstration from (Figure 2).

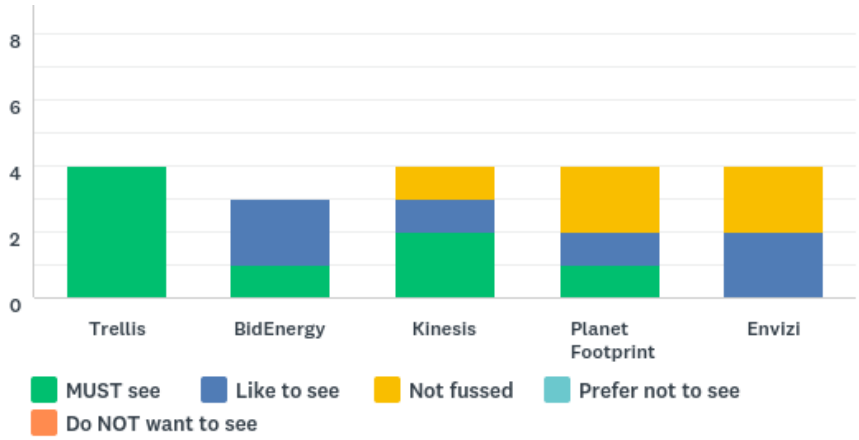

Figure 2: PSG preferences for demonstration

The providers which were selected for demonstration were:

- Trellis (via teleconference at Strathbogie Shire Council on 17 April 2019)
- Kinesis (via teleconference at Strathbogie Shire Council on 17 April 2019)
- BidEnergy (in person at Strathbogie Shire Council on 17 April 2019)
- Azility (previously PlanetFootprint) also provided an in-person demonstration to the Ndevr Environmental team at its Melbourne office on 2 May 2019, based on interest expressed by the PSG.

d) **Obtain indicative proposals from the most suitable for Carbon Crunching Councils business case.** The PSG selected three finalists: Trellis, BidEnergy and Azility. The providers were selected based on the intuitive interface of their platform and resource efficiency capability across the environmental, asset and finance departments. For further information on the software platforms and the provider offerings, see Appendices C-E.

The business case for action is provided in the next section.

2. Business Case

This section presents the business case for a shared GHG inventory platform. For reference Appendix B provides a guide to developing business cases that the PSG may wish to use if individual council business cases are required.

2.1. Proposal

Councils are seeking to implement a shared service that manages Councils' utilities and GHG data as well as associated reporting requirements. The process of building this business case included an in-depth filtering process of available platforms, as per the attached interim reports on shortlisting of potential providers.

2.2. Value Proposition

2.2.1. Environmental

The Victorian Government's *Climate Change Act 2017* sets out a target for net zero emissions by 2050. As part of achieving this target, the State has committed to implementing a system of periodic reporting, including GHG emissions reporting, to provide transparency, accountability and to ensure the community remains informed.

In line with this, Councils need to be conducting GHG reporting. Further, there is growing expectation among communities that their local Council will lead by example in emissions reduction efforts, which are best tracked by GHG reporting mechanisms.

Each of the four Councils in the Carbon Crunching Councils partnership have made environmental pledges as summarised in the table below:

Table 1: PSG Council climate change and sustainability commitments

Council	Document	Commitment
Strathbogie	Draft Sustainable Strathbogie Shire 2030	Set a target for net zero corporate emissions from 2017 levels by 2025
	Council Plan 2017-2021	Set out a goal to sustainably manage its natural environment and built environment
Murrindindi	Council Plan 2017-2021	Set out a goal to reduce its resource consumption under the overarching theme to maintain and enhance places to be attractive, livable, and in balance with the natural environment
Benalla	Council Plan 2017-2021	Set out a goal to establish a Greenhouse Gas Emission Reduction target for Council facilities and operations under its overarching sustainable environment theme, hence requiring inventory and monitoring
Towong	Council Plan 2017-2021	Lists one of the strategic objectives to be environmental sustainability

An analysis of the finalist providers' platforms and services and stakeholder consultations reveal that all of them provide robust audit trails. However, Azility appears to have greater output functionality for GHG

inventory and reporting, including auto-populated reporting templates for internal uses, not just data reports.

2.2.2. Resources

A key issue faced by regional Councils is resource constraints. As it currently stands, Councils have expressed difficulty in, or lack of, effective and efficient resource utilities management, and GHG accounting and reporting due to their resourcing issues. Currently, the Carbon Crunching Councils have three full-time equivalent (FTE) officers undertaking environment and sustainability roles and/or tasks across the four municipalities. In addition to environmental reporting requirements, such staff are required to operate across planning, biodiversity, policy, regulation, community engagement, and other functions. Further, the complexities of GHG reporting make it difficult for current staff to adequately report in line with certain standards. Hence, the automation components of GHG inventory and utility software alleviate the aforementioned resource capacity issues.

The efficiencies obtained in utilising GHG inventory and utility software also fall in line with State and local policies. The *Local Government Act 1989* requires local governments to endeavour to achieve the best outcomes for their local community, which includes ensuring that resources are used effectively and efficiently. The four Councils in the Carbon Crunching Councils partnership have made various operational pledges as summarised in the table below:

Table 2: Operational pledges from Strathbogie Shire Council, Benalla Rural City Council and Towong Shire Council

Council	Document	Commitment
Strathbogie	Council Plan 2017-2021	Set out a goal to be a high performing shire, with a key strategy to continue to focus on operational efficiencies
Benalla	Council Plan 2017-2021	Under the theme for a high performing organisation, Benalla set out a goal to pursue innovation and efficiency in systems and processes
Towong	Council Plan 2017-2021	Under its objective to achieve organisational improvement, Towong has identified goals to improve service delivery and reduce costs through process improvement and shared services, and deploy software that leverages improved IT infrastructure
Murrindindi	Council Plan 2017-2021	Under the 'Our Promise' objective, Murrindindi aim to ensure their culture, systems and technologies encourage and enable innovation in their business practices and service delivery. Aligned with this, Council already utilise Planet Footprint for carbon inventory.

2.2.3. Economic

Council budgets are subject to public scrutiny and, like all organisations, Councils are required to ensure the best use of funds and financial sustainability. The finalist GHG inventory and utility management software have either annual or month-to-month subscription costs which can be seen in section 2.3.

These costs can be offset by savings made from bill validation capabilities (i.e. identifying discrepancies and instances of overcharging) of the software, including identification of better tariff structures. BidEnergy claims that 10% of bills have issues to be resolved and estimates administrative savings in the order of $15-

$30 per bill processed. The financial savings attributable to improved utility management and invoicing was investigated by CarbonetiX during phase one of the Carbon Crunching Councils program (Table 3). The summary report is attached in Appendix F.

Table 3: 2018 energy costs and potential savings achieved through bill validation and improving tariffs (modified from CarbonetiX 2019)

Council	Baseline Annual Cost	Forecasted Saving Per Annum	Actual Recovered	Actual Annual Avoided Costs
Strathbogie	$205,983	$16,612	$780	$4,709
Murrindindi	$22,972	$10,802	$1,755	$1,7,690.50
Benalla	$397,732	$33,996	-	-
Towong	$107,274	$34,000	-	-
Total	**$885,059**	**$95,410**	**$2,535**	**$12,399.50**

The tools also have the ability to show energy usage for identification of energy savings, and therefore cost savings. Further, productivity benefits allow environmental officers and finance officers to increase their utilisation on other tasks.

2.2.4. Leadership

As the world progresses towards a low-emission society, ensuring local communities remain sustainable will be an ever-evolving challenge. Councils have an opportunity to show leadership to their community, peers and industry, and are well placed and capable of leading change. Councils, as stewards of the community, have a responsibility to ensure they endeavour to reduce their emissions, and make such information accessible and transparent.

The four councils are already showing leadership by participating in the collaborative council initiative, CCSFP, as the Carbon Crunching Councils. Their project under the initiative can allow for leadership within the Goulburn Broken Greenhouse Alliance and other regional councils.

The CCC can utilise the available software for benchmarking purposes at different levels – from asset comparisons to inter-Council comparisons. The tools also have the capability to help Councils identify energy, and bill, improvement opportunities and track energy usage in a centralised and user-friendly manner.

2.3. Implementation Considerations

2.3.1. Stakeholders

Implementation and use of the GHG inventory and utility management software will involve internal stakeholders from the following departments: Environmental, Finance/Accounts and Procurement.

The implementation and ongoing operation of the tool will involve, or be of interest to, the following external stakeholders: Energy retailers, energy providers, suppliers (e.g. fleet, waste), the GHG inventory software provider, and the community (i.e. rate payers).

2.3.2. Costs Involved

Table 4 below shows a comparison of the annual subscription costs for each of the finalist GHG and utility platforms in comparison to the alternative option of employing a shared FTE to work across the councils and be responsible for the GHG inventory, reporting and utility data management.

Table 4: Total annual cost for the four participating Councils for the software platform, in comparison to the cost of an FTE employee to manage reporting

Option	Annual Costs
Trellis	
Azility	
BidEnergy	
Shared FTE Option	Prices redacted

Each provider has given the structure of their cost breakdown and this can be seen in the tables following. For more detail, refer to Appendix C, D and E for each of the providers proposals in full.

Azility (formerly Planet Footprint)

Azility offers 5 modules for its platform. Its indicative quote covers the Core Scorekeeping Service, the two Environmental Modules (Projects and Emissions), and Utility Control. If all Councils sign on, with Murrindindi continuing their subscription, but upgrading to include the utility control module, Azility will waive onboarding fees and discount annual subscriptions to [redacted] for each Council. Note that its pricing also takes into consideration the size of the municipalities. For more details on Azility's proposal, see Appendix E.

Table 5: Azility indicative pricing for Carbon Crunching Councils (white) and comparison to standard pricing (grey)

Council	Joint Council Offer - Annual	Joint Council Offer – Setup	Regional Council Discount (under 15k population) - Annual	Regional Council Discount (under 15k population) - Setup	Standard - Annual	Standard - Setup
Strathbogie						
Murrindindi	Prices redacted		Prices redacted	Prices redacted	Prices redacted	
Benalla						
Towong						

BidEnergy

BidEnergy has provided indicative pricing based on the number of accounts per Council. It has included an option for individual pricing, or an even split. The even split would be [redacted] per Council per month, or $[redacted] per annum. The proposal is inclusive of the software, a dedicated account manager and services. Note that the inclusion of BidEnergy bill payment on behalf of Council would be an additional [redacted] per account per month. For more details on BidEnergy's proposal, see Appendix C.

Table 6: BidEnergy indicative pricing

Council	Total Accounts	Per account per Month	Total Individual	4 Way Split
Strathbogie	96			
Murrindindi	140			
Benalla	72			
Towong	71			
Total	**379**	Prices redacte	Prices redacted	Prices redacted

Trellis

Trellis has provided indicative pricing based on the size of each municipality; the rate is [redacted] per head of population. For a full list of what is included, see Trellis' proposal in Appendix D. Note that interval data is an extra [redacted] per annum per data feed and a once-off $600 set-up cost per metering provider.

Table 7: Trellis indicative pricing

Council	Population Estimate FY16 Source: ABS	Annual Fee (50c per head of population) ($ ex GST)
Strathbogie Shire	10,645	
Murrindindi Shire	13,732	
Shire of Towong	5,985	
Benalla Shire	13,861	
Total (ex-GST)		Prices redacted

2.3.3. Resource Requirements

The preferred solution is a Software as a Service (SaaS) product – an outsourced solution, with cloud setup and is thus accessible anywhere as long as there is an internet connection. The requirements on Councils resources to utilise such a platform is minimal.

As it is a SaaS product, implementation occurs remotely. Council will need to provide an asset list and any historical data that is not obtainable from suppliers and sign a Letter of Authority which allows the provider to set up historical and ongoing data collection from all suppliers. This includes sign-in to fleet portals. The chosen SaaS provider (BidEnergy, Trellis or Azility) will liaise with key stakeholders from Council to ensure that they build the platform according to the needs of the Council. This includes alignment with existing accounts payable systems and reporting templates. Councils are not required to onboard sites or data.

Short training sessions on how to use the portal are provided. For example, Azility offer a 3-hour face-to-face and hands-on training program.

All finalist providers are similar in their requirements. Once the implementation has been completed and training provided, there is no requirement for Council to collect, process and collate any data.

Ongoing requirements of Council staff would be to communicate with a dedicated service manager, a benefit provided by all finalist providers, to notify the provider of any changes such as users of the platform, change of supplier, change of assets, etc. Azility and Trellis' offerings include quarterly performance reviews to discuss consumption trends, anomalies and actions.

2.3.4. Privacy

Each of the finalist providers offer different multi-Council options, but all ensure privacy of data at the discretion of each of the participating Councils.

BidEnergy

BidEnergy proposes to onboard each Council separately as an individual client. Each Council would have unlimited user numbers to cater for each department's requirements and individual users can be set up with an additional layer of security/access. An additional umbrella account would be set up for benchmarking purposes with strict access and information guidelines agreed to by each Council. BidEnergy currently has

this set up for a large facilities management company, Cushman and Wakefield, which services the likes of BHP and Australia Post in this way.

Azility

In a similar approach to BidEnergy, Azility will be able to set up each Council separately as an individual client, with multiple users with varying access based on their department and needs. Azility has an analytics portal on their platform. This will be used as the benchmarking platform for the participating Councils, where they can see a condensed view of selected data. This is to be determined and agreed to by each Council using strict access and information guidelines.

Trellis

Trellis provides a different approach to the previous two, which is why it has a cheaper offering. It proposes to place all Councils on the one platform with tiered access levels. The top access will see a summarised benchmark view of all participating Councils. Users can then delve deeper into the data by organisation, then to asset, and so on depending on user security access.

2.4. Risks of Inaction

As it stands, the Carbon Crunching Councils are unable to report on their GHG inventories due to the complexity of council data accounts and resource limitations.

Employing someone full time to service the four councils, in addition to the expense, will face additional challenges in accessing data from different departments and councils, and geographical challenge due to the large distance between councils. Further, a one-person resource is a knowledge risk and incurs a period of training and handover should they move on.

Additionally, Councils do not have the resources to conduct a thorough bill validation process. As BidEnergy claims, 10% of bills have issues, leading to unnecessary costs. Each of the finalist software providers have a bill validation functionality, highlighting and potentially resolving these cost issues, thereby saving money for the Councils.

As such, the cost of the implementation of a shared software platform for GHG inventory reporting is less than the cost of a share FTE and carries less risk and ensures more reliable and robust inventories and reporting.

Appendix A: Interim Report

Carbon Crunching Councils

Hannah Meade
17 April 2019

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Carbon Crunching Councils

Project Overview

Shared GHG Inventory Capture & Calculation Review:

- Investigate available GHG inventory capture and calculation methods, and present a shortlist
- Assist Steering Committee to select providers to give demo of their platform, develop KPIs for testing
- Assess programs and present a business case
- Present findings at a workshop with GBGA

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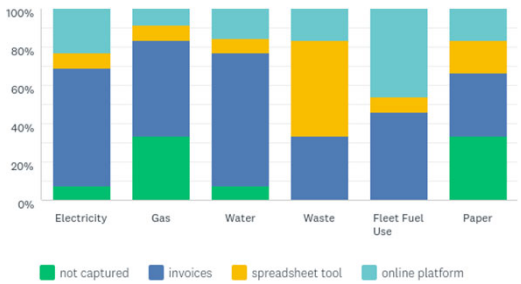
Carbon Crunching Councils

Survey Results

Key Findings

- Inventory practices are largely manual or rely on excel spreadsheets
- Current data collection practices:



- Resourcing:
  - On average, respondents could spare half an hour per week for carbon crunching
  - Automation is key – this involves avoiding manual programs (e.g. excel)
  - Comparison between inventory platform with oversight by provider vs platform oversight by shared employee vs shared employee

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Carbon Crunching Councils

Shortlist

Trellis

Contact: Matt Shorten, CEO
matt@yourtrellis.com

Kinesis

Contact: Bruce Taper, Director
bruce.taper@kinesis.org

PlanetFootprint

Contact: Matthew Cascio, BDM
matthew.cascio@planetfootprint.com

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Carbon Crunching Councils

Shortlist

BidEnergy

Contact: Domenic Chiavone, GM
domenic.chiavone@bidenergy.com

Kinesis

Contact: Chris Hancock, BDM
christopher.hancock@envizi.com

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Carbon Crunching Councils

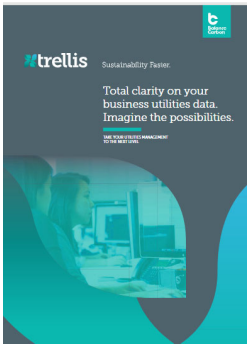
Trellis – key features

Key Features:

- **Automatic** collection/calculation of any data sourced from pdf invoices/bills (and csv)
- Trellis intercepts, processes, and interprets data from **over 70 providers**
- **Data integrity**: regular auto completeness and accuracy checks made visible in the dashboard
- The system is **audited** by a 3rd party against NGERs
- **Cloud based:** no customisation, installation requirements or ongoing upgrades/patches
- **Council users**: City of Mitcham, Maribyrnong City Council, Georges River Council
- Generates compliant reports under **NGERs** and **NCOS**
- Experience: helpful and forthcoming

Limitations against shortlist criteria:

- Did not provide information on basic costing structures
- Does not have capability to identify improvement opportunities



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Carbon Crunching Councils

Kinesis

Key Features:

- CCAP integrated:
  - Survey Module: biodiversity, health & wellbeing etc
  - Environment Module - Reporting:
    - Regulatory (NGERs)
    - Voluntary (NCOS, NABERS, Green Star)
    - Benchmark (KPI – map data to strategy, intensity)
    - Data integrity (completeness, validation, tarrif)
    - Interval Data (sub-metering, solar, tenant)
  - Project Module: track initiatives
- **Council users:** City of Melbourne, collaboration bw Randwick, Waverley and Wollahra
- CCAP City: Community-wide GPC reporting

Costing:

- CCAP integrated:
- **Option 1: Shared platform**
  - On-boarding = redacted (waved for multi-year agreements)
  - Annual Licence = redacted
  - Annual Data Management = redacted
- **Option 2: Individual platform**
  - On-boarding = redacted (waved for multi year agreements)
  - Annual licence = redacted
  - Annual Data Management = discount applies if same providers

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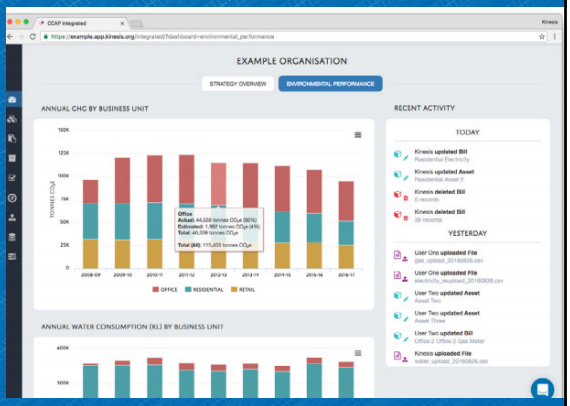
Carbon Crunching Councils

Kinesis

Limitations against shortlist criteria:

- Does not have bill validation and payment function
- Platform completes sense checks on data and notifies users, but no 3rd party or auditing is carried out
- Joint subscription is possible – 4 councils on one platform – however, no hidden data
  - Solution: Individual applications of CCAP integrated, and jointly fund data collection (i.e. if have same energy providers)



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Carbon Crunching Councils

Planet Footprint

Key Features:

- 6 Modules:
  - Core Scorekeeping Module (utility data management & analytics)
  - Environment Modules
    - Energy/emissions data management & reporting
    - Measures, Offsets & Events – tracks initiatives (manual entry by user)
  - Meter Minder – interval data
  - Utility Control – bill validation & payment
  - Training
- Data integrity: review of data completeness (service)
- 130 **council users** incl. Murrindindi Shire Council

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Assumptions:

- 422 accounts includes energy only
- Implementation = redacted

Option	Core Scorekeeping Service	Core + Environmental	Core + Environmental + Utility Control
Single Council Platform			
4 Councils Combined Platform	Prices redacted		
Discounted Single Platform*			

*If all councils sign-up

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Carbon Crunching Councils

Planet Footprint

Limitations against shortlist criteria:

- Contradiction between provider and council stakeholder regarding automation of non-energy data
  - Confirmation: If automated data feeds are not available, Planet Footprint staff will complete the data entry on behalf of Council at no additional charge
- Platform completes sense checks on data and notifies users, but no 3rd party or auditing is carried out
- Joint subscription is possible – 4 councils on one platform – however, no hidden data (can set up log-ins taking you to your own profile, but one council can look at another council's data if they so choose)

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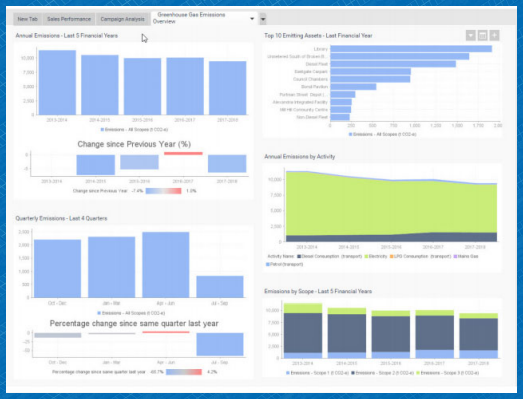

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Carbon Crunching Councils

BidEnergy

Key Features:

- Utilises Robotic Process Automation (RPA) - Automatic collection/calculation of any data sourced from pdf invoices/bills
- **5 Modules:** Bill Validation & Payment; Portfolio Management & Analytics; Budgeting & Accruals; Procurement & contracts management; Energy & Financial Report
- **Outsource energy to CarbonView by Simble**
  - Identifies improvement opportunities
  - Drive behaviour change
- **Council users** of CarbonView: Central Coast Council, Ballina Shire Council, Eurobodalla Shire Council, Municipal Association of Victoria, Willoughby City Council

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Carbon Crunching Councils

BidEnergy

Limitations against shortlist criteria:

- Outsource sustainability data and inventory management
- Platform completes sense checks on data and notifies users, but no 3rd party or auditing is carried out

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Carbon Crunching Councils

Envizi

Key Features:

- **Energy/Emissions modules**: Sustainability Data Management & Reporting; Target Tracking; Solar Monitoring; Energy Efficiency Program Reporting, Measurement & Verification
- **Building/Asset modules**: Ratings & Benchmarks; Energy Performance Analytics; Interval Meter Monitoring; Asset Performance Monitoring (IoT); Equipment Fault Detection
- **Utility modules**: Data Management & Analytics; Bill Checking & Validation; Financial Management
- **Council users:** Albury City Council

Costing:

- **Assumptions**:
  - 400 accounts
  - Modules:
    - Sustainability Data Management & Reporting; Utility Data Management & Analytics; Bill Checking & Validation;
    - Solar Monitoring – 20 sites
    - Interval Meter Monitoring – 40 sites
- Costs:
  - Set-up, training, consulting: redacted*
  - Annual subscription: redacted*(400 accounts)
  - Account: $6-12*; Meter: $60-120*

*50% discount to councils

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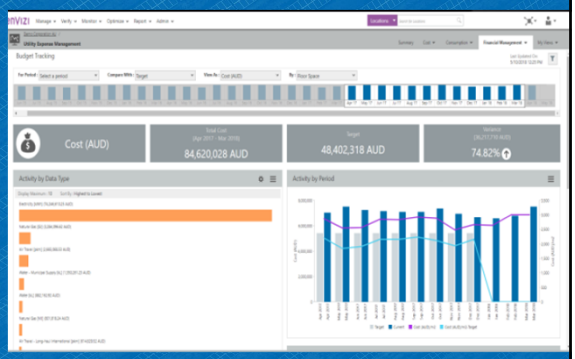
Carbon Crunching Councils

Envizi

Limitations against shortlist criteria:

- Some sources say that Envizi are expensive (i.e. certain modules requiring smart sub-metering and IoT)
- Platform completes sense checks on data and notifies users, but no 3rd party or auditing is carried out



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Carbon Crunching Councils

Ecometrica

Key Features:

- **Data/Platfrom integrity**: Tested independently by Price Waterhouse Coopers
- Have earth observation technology to provide **geoanalytical** insights to organisations' profile
- Can analyse data in any format and provide reporting against any international regualtory standard

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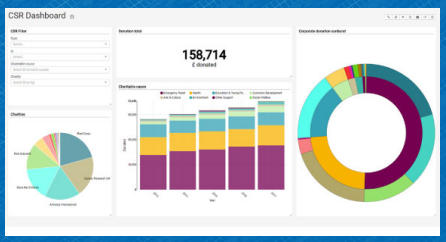
Carbon Crunching Councils

Ecometrica

Limitations against shortlist criteria:

- International company
  - Based in Europe and North America
  - Unable to make contact, therefore not included in shortlist



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Criteria	Weighting (%)	Trellis	CCAP - Kinesis	Planet Footprint	BidEnergy (& Simble)	Envizi	Ecometrica
Automation (collation, calculation, reporting, verification), incl compatability with 3rd party tools	22.4	1	0.8	0.8	0.8	0.8	0.8
Value for Money (see cost comparison)	6.49						
Fleet data	5.81	1	1	1	1	1	1
Multiple users	5.6	1	1	1	1	1	
Track performance over time	5.24	1	1	1	1	1	1
Comms with staff	5.06	1	1	1	1	1	1
Manual exploration capability	4.84	1	1	1	1	1	1
Waste data	4.73	1	1	1	1	1	1
Water data	4.68	1	1	1	1	1	1
Improvement opportunity identification	4.63	0	0.5	0.5	0.5	0.5	
Track performance against target	4.07	1	1	1	1	1	1
Understanding energy usage	3.93	1	1	1	1	1	
Mandatory compliance	3.88	1	1	1	1	1	1
Support services	3.75	1	1	1	1	1	1
Output functionality	3.58	1	1	1	1	1	1
Bill validation & payment	3.37	1	1	1	1	1	
Forecasting capability	3.18	1	1	1	1	1	1
Oversight by provider	3	1	1	1	1	0.5	1
Voluntary compliance	1.74	1	1	1	1	1	0.5
Fit (%)		88.86	86.70	86.70	86.70	85.20	70.61

*Weightings obtained from survey

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Carbon Crunching Councils

Indicative Cost Comparison

Provider	Implementation Costs	Annual Licence – Shared Platform	Annual Licence – Individual Platform
Trellis	Not provided yet		
Kinesis (CCAP Integrated)		Prices redacted	
Planet Footprint		Prices redacted	
BidEnergy	Not provided yet		
Envizi		Prices redacted	Not provided yet

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*Refer to previous slides for Assumptions

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Appendix

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Exclusions – Overall

- **Not suitable for councils' purposes or operations:**
  - SAI Global
  - AZZO
  - Carbon Control
  - Viewlocity
  - Savvy Plus
  - Enablon
- **Did not meet automation criteria**
  - Clearpath
  - CIRIS
  - Ironbark
  - Vital Metrics
  - ACCUVIO
  - Eco Tracker
  - Green Sense

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Exclusions

- **Ironbark:**
  - Excel emissions profile and activity data
    - Compliant with Carbonn and CIRIS for Global Covenant of Mayors for Climate & Energy
  - SDT and report
  - Carbonn registration
  - **COST**: $15,900
    - Includes services above plus a follow up profile and activity data
    - ($6,950 without SDT)
- **Limitations:**
  - No data management service, must be done by council and provided to Ironbark
  - Everything is done by Ironbark staff, no automation or manipulation by councils
  - No output functionality
  - No utility data management
  - No bill validation & payment

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CarbonMetriX

Exclusions

- **CarbonetiX:**
  - Web-based utility data storage and management
  - Streamline with financial systems, GIS
  - Tracks electricity, gas, water, fuel, paper, emissions
  - Retailer data, interval data, manual entry
  - Forecasting, performance tracking, staff communications, improvement identification
- **Cost structure:**
  - Initial establishment of the database software, a minimum of 12 months of licensing upon practical completion and the ability to extend licensing on an annual basis as needed
- **Limitations:**
  - No bill validation & payment unless via consultant
  - No reporting or explicit compatibility with NGERS and NCOS

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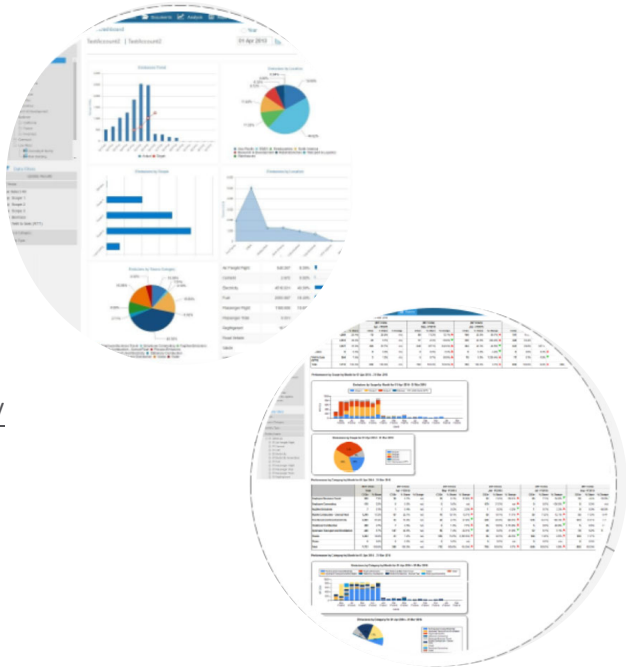
Exclusions

- **ACCUVIO:**
  - Cloud-based
  - Robust audit trail
  - Multi-user access control
  - Automated capacities managed by user, i.e. self-managed system
  - https://accuvio.com/2-minute-demo-video/
- **Cost:**
  - unknown
- **Limitations:**
  - No Australian office
  - No local government clients



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Exclusions

- **GreenSense:**
  - Data capture via utility bills, BMS, sub-metering, meter
  - Buildings: electricity, gas, water, GHG
  - Communication platform
  - NGER and NCOS compatible
- **Cost:**
  - Unknown
- **Limitations:**
  - Directed at energy monitoring in buildings
  - Manual scope 3

http://greensense.com.au/greensense-view/videos/

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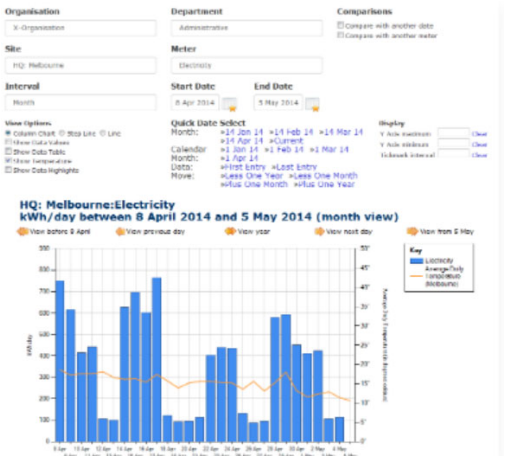
Exclusions

- **EcoTracker:**
  - Council clients: Manningham, Hume, Stonnington
  - Online utility monitoring systems
  - Claims automation but reliant on sub-metering/smart metering solutions
  - Can be configured for any data type
- **Cost:**
  - Unknown – smart metering is expensive
- **Limitations:**
  - Claims automation but reliant on sub-metering/smart metering solutions
  - No utility management – no bill validation & payment



https://eco-tracker.com/Default.aspx?ReturnUrl=%2f

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Exclusions

- **ACCUVIO:**
  - Cloud-based
  - Robust audit trail
  - Multi-user access control
  - Automated capacities managed by user, i.e. self-managed system
  - https://accuvio.com/2-minute-demo-video/
- **Cost:**
  - unknown
- **Limitations:**
  - No Australian office
  - No local government clients

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Thank you

Contact Hannah Meade
P 9865 1413
E hannah.meade@ndevr.com.au

Level 2, 27-31 King Street
Melbourne, VIC 3000

Certified B Corporation

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Appendix B: Business Case Guide

Business Case Guide

This section outlines how to create an effective and tailored business case for your proposal by using key guiding questions.

Any new idea and/or investment in your organisation requires answering seven key questions, which are outlined below. The sections of the business case template found at the end of this section are structured around these questions and their respective elements for a project proposal. They form a concise guide to build your business case, and robustly prepare your project or idea for presentation to the relevant manager for endorsement.

Who?

The stakeholders affected by or that will affect the idea or investment should be identified and delegated a responsibility. Relevant stakeholders include, but are not limited to technical staff, community members, senior managers, financial managers, suppliers, procurement officers, etc. It is important to document the interests of each stakeholder and how they may help or hinder the development of the business case and the implementation of the project or action.

Why?

Explain why the project is relevant to your existing business environment. Some focal points include:

- What challenges are you currently facing that need resolution?
- What are the strategic drivers relevant to the project or action?
- How do the proposed actions align with business priorities?

How?

Explain how you plan to meet the needs of the identified issue and what your solution or methodology is. Consider the following:

- What research have you conducted to know that this is the best solution?
- What is your solution or methodology? Explain what it is, e.g. will any new technology be involved?
- What resources do you need to implement the project? E.g. internal workforce, existing infrastructure or equipment, external contractors, etc.
- Measurement and verification plan:
  - How will you monitor the progress of the implementation to measure its success?
  - Which internal KPIs will you use?
  - Do you need to conform with any internal guidelines or templates?
  - Are there any relevant external metrics to be considered?

What?

Identify and explain the relevant impacted business area and project risks. Key considerations are:

- Which area of the business the project relates to and how the change will impact this area
- Potential other business areas that will be affected by the project during construction or post-completion in the near-future
- Any impact of the implementation on overall production and business continuity
- Any operational, environmental or other risks involved in the implementation

- A high-level indication on the level of these risks
- Identify links between the project and existing business opportunities

When?

Key considerations around the timeframe of your project, including:

- What is your recommended implementation schedule? E.g. start date, approximate length of implementation, expected completion date, project milestones, etc.
- When do you expect to see the benefits of the project in the business?

Where?

Consider where the project implementation will be located and which company facilities or sites will be impacted.

How Much?

Outline the costs and benefits, and the consequences of doing nothing to address the business need. Key considerations include:

- How much will it cost?
  - Clearly state the assumptions of the project or action when describing the costs.
  - Try to use figures to emphasise the main points.
  - Ensure the level and accuracy of data is applicable to the scale of the project or action and funding required. If possible, include data in the appendices.
  - Include timings of the project cost if possible.
- Are there any other sources for funding?
  - Clearly state the funding source of choice, whether internal or external. Alternative sources can be offered to strengthen the case.
  - Identify any potential government grants that are available for the project.
- What are the benefits?
  - These can be financial or non-financial.
  - For energy-related projects, include any non-energy benefits arising from the project e.g. process optimisation, greater efficiency due to new equipment or infrastructure, etc.
  - Clearly state assumptions and where possible, quantify these benefits.
- What risks is the business taking by not implementing the project?
  - Outline and emphasise the case of doing nothing, and how this will cost or impact the business if the project does not get approved.
  - These can be financial or non-financial.

Appendix C: BidEnergy Slide Pack and Proposal

NDEVR

Benalla, Murrindindi, Strathbogie, Towong Councils Proposal

May 2019

Australia | New Zealand | U.S.A | U.K

BidEnergy (Operations) Pty Ltd

Level 7, 530 Little Collins Street

Melbourne, VIC, 3000

www.bidenergy.com

ACN 158837097

3rd May 2019

RE: NDEVR and Member Councils

Dear Hannah and Juliana,

Thank you for the opportunity to provide a proposal to NDEVR outlining the next steps toward assisting you and your council clients with a fully managed Emissions and Energy Data Solution to help drive their Strategic Energy Outcomes.

As you can see from the below diagram BidEnergy's RPA and AI platform drives efficiencies in the energy category over a range of departments in Council which I have addressed in more detail on following pages. The solution and service can ensure clean, audit worthy, accurate data that is as up to date as the most recent bill to have entered the platform. Robotics extracts, processes, validates and updates this data within a few seconds of a bill being received.

The Bid Energy solution is far quicker, more cost effective and more accurate than any other service in market due to the use of RPA to process data and perform many repetitive tasks. We see our solution as offering council a way to take those laborious tasks away in order to help their people make stronger and more strategic recommendations in the emissions and energy category.

Following is some information that explains how we assist each council department that has something to do with energy, be it processing, checking and paying a bill, running an emission, usage or spend report, creating a budget or forecast, purchasing energy or simply commissioning a new site or closing one down.

Pricing and Scope

Software and BidEnergy Dedicated Account manager plus Services included in pricing for the following accounts:

Council	Total Accounts	Per account Mth	Total Individual	4 Way Split
Strathbogie	96			
Murrindindi	140			
Benalla	72			
Towong	71			
Total	379			

Brief Scope Outline included in pricing (full scope to be provided in contract)

- BidEnergy to validate bills against contract and meter data (large sites).
- BidEnergy to provide a weekly payment file to be integrated to each councils AP System.
- BidEnergy will obtain information from 3rd parties as part of the onboarding process and ongoing to maintain an audit worthy database or record – no data collection will be required by council.
- BidEnergy to help create baseline budgets for both emissions and spend. Platform will track progress against budgets in real time.
- Up to date data for all billing to hit the platform.
- Provision of full platform training across all councils

Brief Out of Scope

- BidEnergy to create and manage full RPT process for Electricity, Gas and Water (where applicable). To be quoted.
- BidEnergy to do bill payment on behalf of council. Additional [redacted] per account monthly

BidEnergy Proposed Structure

The structure of our proposed privacy and benchmarking option would be to onboard each council as an individual client to ensure complete privacy of information for all. This would be done for each in exactly the same way as all our current clients. Each council would have unlimited user numbers to cater for each department requirement and individual users can be set up with an additional layer of security/access. In order to provide benchmarking and cross council information sharing an additional “umbrella” account would be set up with strict access and information guidelines agreed to by each council. BidEnergy currently has this set up for a large facilities management company, Cushman and Wakefield, who service the likes of BHP and Australia Post in this way.

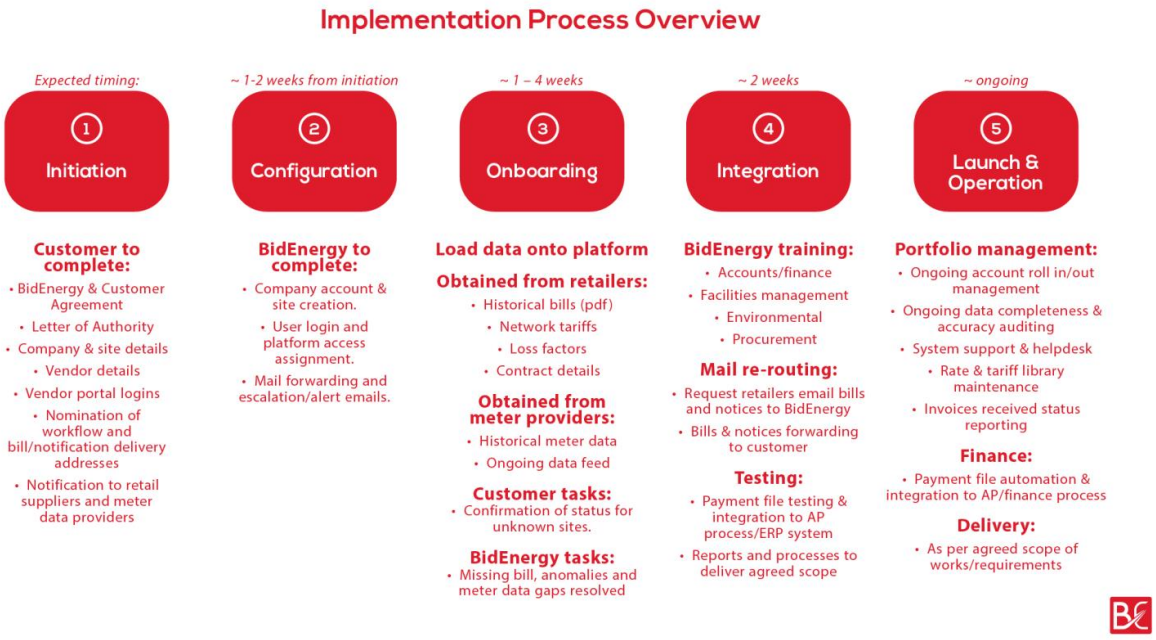
Impact on Council Resource’s

The requirements on council resource during implementation is minimal. Upon sending site list, letter of authority and executed subscription agreement to BidEnergy no setup involvement will be required from council to onboard sites and data. During the initial setup phase of 4 weeks there will be some information required to configure payment files and ensure all sites and billing is being captured however this will only require a few short meetings or calls. Once the implementation has been completed and training provided there is once again no requirement for council to collect, process and collate any data. Complete access to the platform will allow council and council departments to determine how much they engage the platform with the knowledge that our robotics has processed all data. Automated reporting for Emissions, Issue Resolution, Usage and Spend and payment files is sent on a weekly/monthly basis (see screenshots) and access to your dedicated account manager is as quick as a phone call away to ask a question, get some guidance or produce a budget. The beauty of the platform is the RPA does all the hard processing work quickly and accurately for us to allow us to support you with energy expertise and getting the information you need quickly.

Onboarding Process Timeframe

There are two phases to onboarding, these begin and will run simultaneously. Phase one is uploading sites and having retailers switch your billing to be sent directly to the platform. This phase is quick and generally completed within 1-2 weeks (dependent upon retailer). There is a Quality Assurance process to ensure all bills are hitting the platform which will take as long as the frequency of billing. The robotics flushes this out with automated alerting. Phase two is the collection of 12 months of billing history (Electricity, Gas and Water) to allow you to report on your previous 12 months of Emissions, Usage and Spend immediately – this is particularly useful for forecasting and budgeting your next year. If historical information regarding Scope 3 Emissions is available this can be also uploaded. This phase's timeframe is dependent upon the retailer's ability, and willingness, to send through information. General expectation for your complete 12 months of historical data to be procured from retailers is 1-4 weeks.

Total Onboarding from Information being received is 4 weeks.



BidEnergy Solution Council Departmental Benefits

Sustainability and Emissions

- Emissions budgets using RPA for even the largest portfolio takes less than a minute and can be created at any time on our robotic platform giving clear visibility to Zero Targets
- Once the base case is established a forward-looking emissions forecast can be done by changing expected parameters like usage, site numbers, emissions factors, enviro charges etc.
- Actual emissions can be tracked against budget and the sustainability manager alerted if out of tolerance.
- Accruals for emissions are immediately available at any time of the month based on accurate and immediately available consumption data which is updated upon receipt of every bill.
- Automated emissions reports can be sent to required personnel's inbox every month.
- NGERS and NABERS reporting is simple quick and audit worthy as the clean data is extracted from the legal bill of record. There is no need to wait for weeks while a clean data set is created and manually pulled together.

CFO – Finance

- Creating a base case budget (zero change from last year) using RPA for even the largest portfolio is a few mouse clicks away and can be created at any time on our robotic platform.
- Once the base case is established a forward-looking budget or re-forecast can be done by changing expected parameters like usage, energy prices, network charges, enviro charges etc.
- Actual spend can be tracked against budget and the category manager alerted if out of tolerance.
- Budgeting is an annual life-cycle activity, but re-forecasting can be easily done to take account of changes to energy prices, usage and network charges etc.
- Accruals are immediately available at any time of the month based on accurate and immediately available pricing and consumption data.
- Immediately generate detailed reports down to the site level at any time at the touch of a button.
- Automated emails can be set up that sends the required report to your inbox every month.
- Gone are the days of asking a consultant to prepare a report and waiting days while they clean the data and manually pull it together - often with errors or omissions.

Accounts Payable

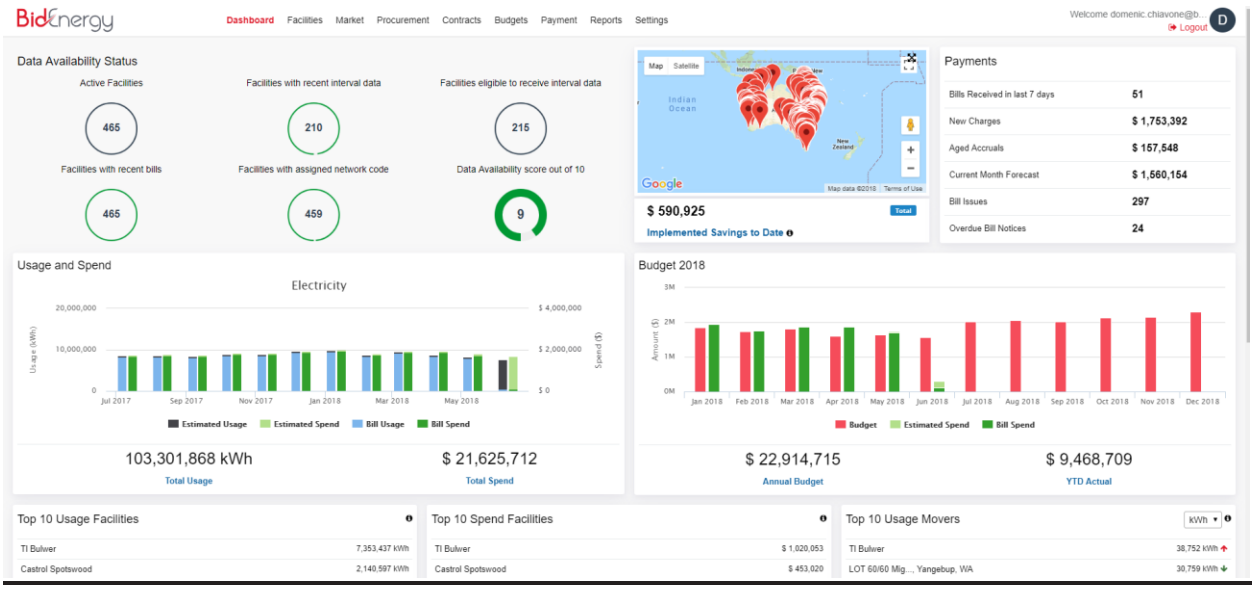
- Robotic Process Automation (RPA) collects, validates and addresses exceptions before payment and data storage.
- RPA collects every bill issued for every site and validates the usage, rates and charges against the contracts, meter data, network/utility tariffs and active site list.
- No one touches the bill - delivering speed and accuracy outcomes unmatched by manual or semi-automated processes.
- Our platform can process (collect, parse, validate, and code) thousands of bills in minutes.
- RPA and cloud computing gives you instant access to your data with unparalleled levels of accuracy.

Facility Management

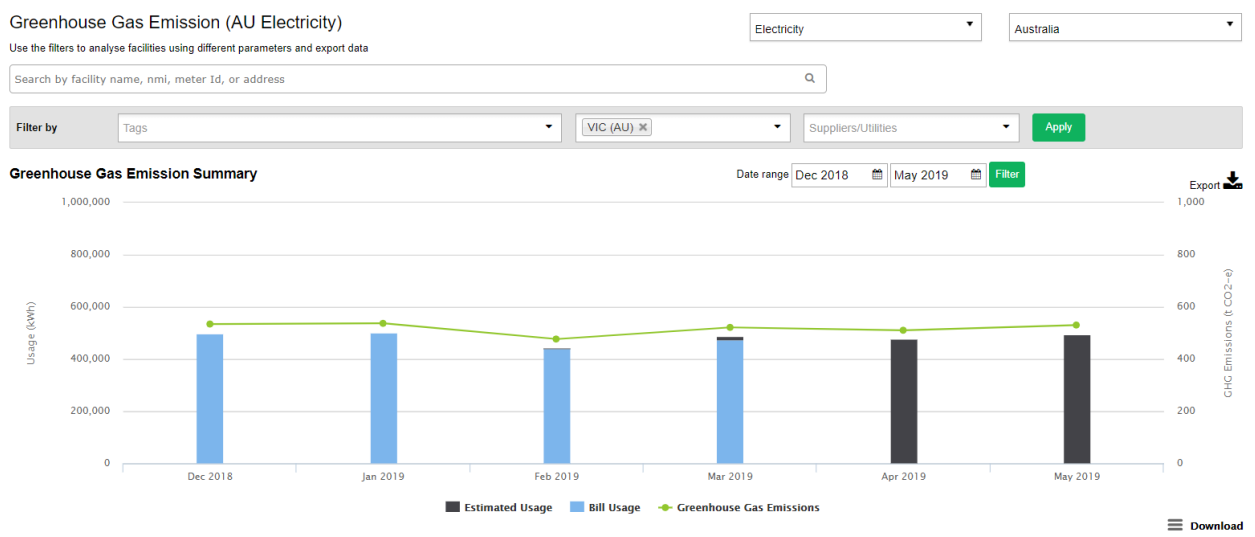
- The platform provides a bullet proof site list that can be reported/generated at any time.
- RPA and cloud computing allow us to manage every site opening and closing seamlessly, track all energy data related to new and closed sites to enable easy benchmarking.
- Automation enables clients to ensure that they are on optimal network/utility tariffs and understand cost impacts, before new regulated tariffs/pricing are approved and included in bills.
- Seamlessly run regular network/utility tariff optimisation and demand reset opportunity reviews to continually reduce the non-energy commodity charges (up to 60%) on the bill.

Screenshots

Portfolio Dashboard

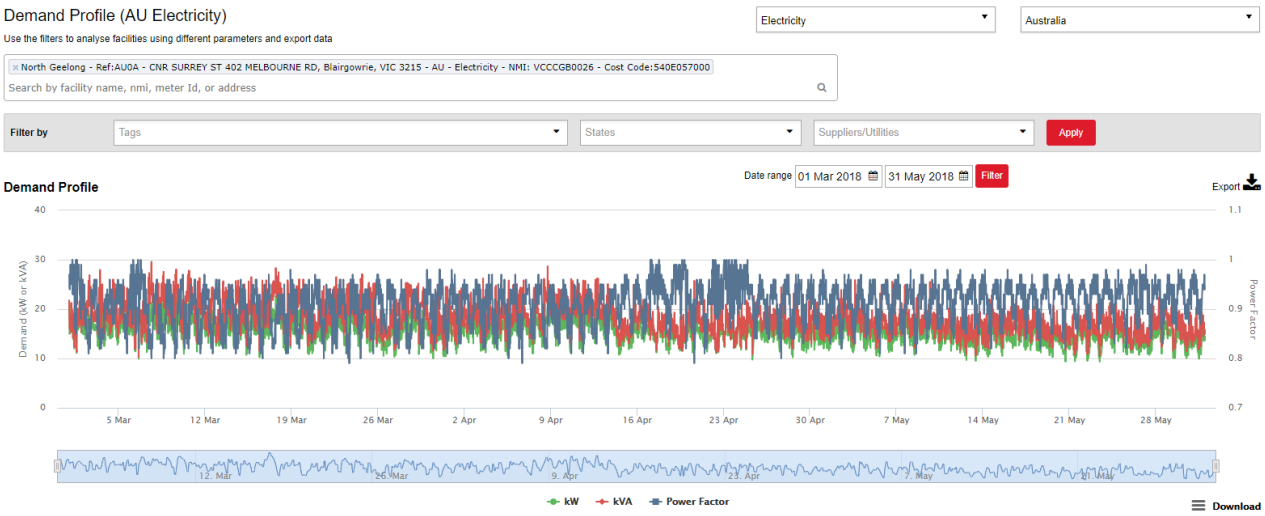


GHG Emission Reporting

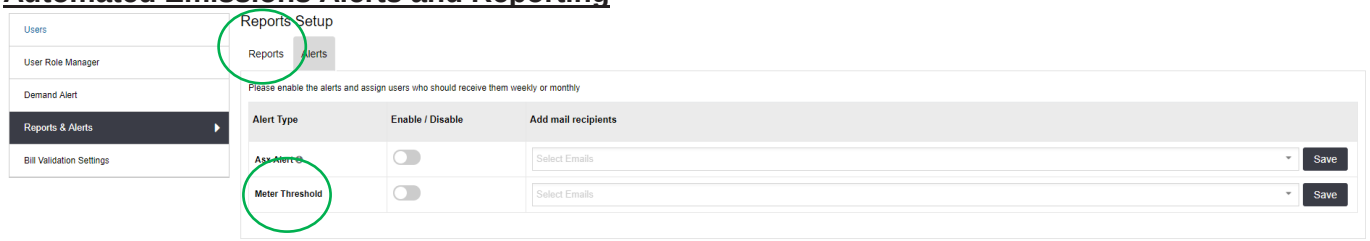


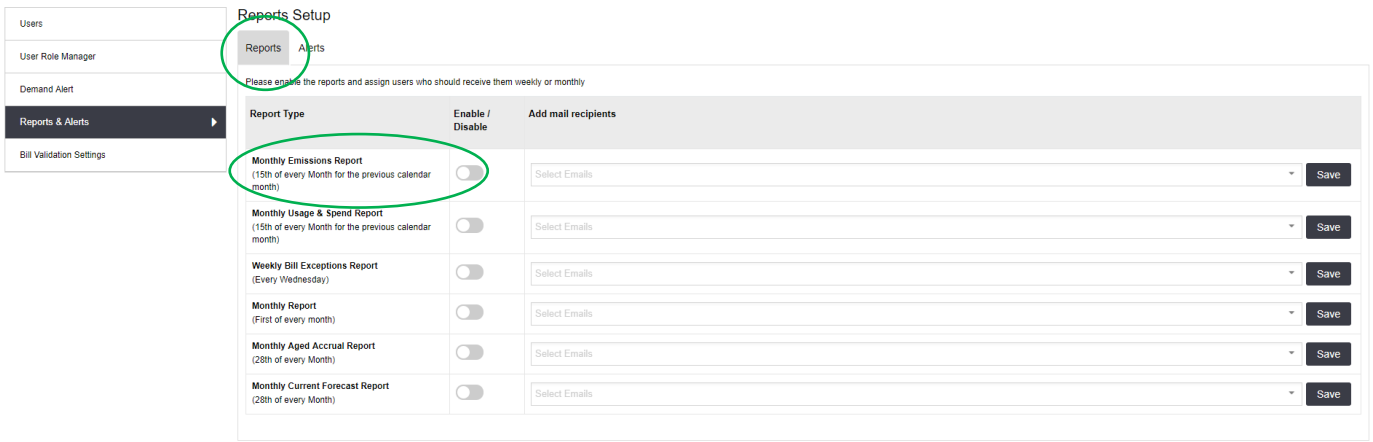
13	2,907,909 kWh	3,111.46 t CO_2-e
# Facilities	Total Usage	Total Emissions

Demand and Power Factor

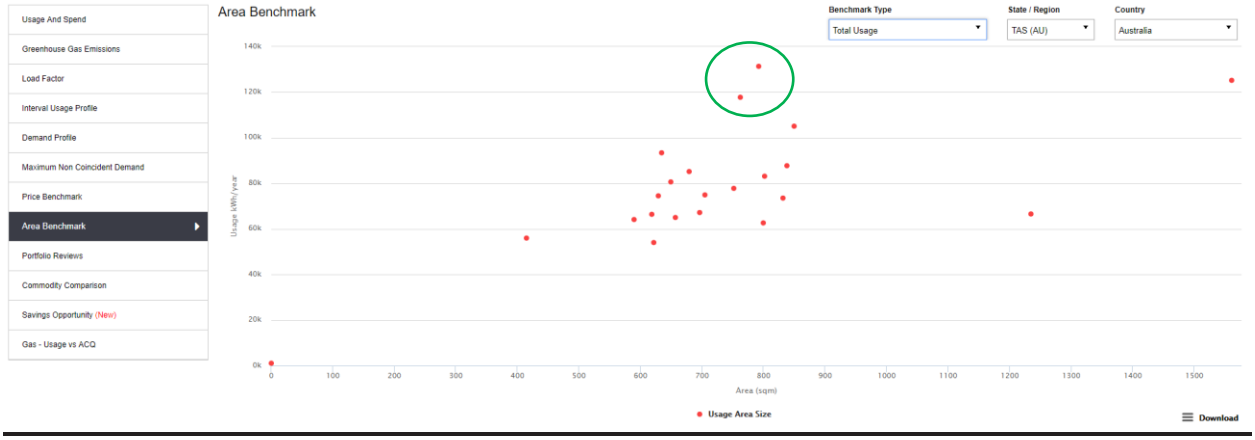


Automated Emissions Alerts and Reporting

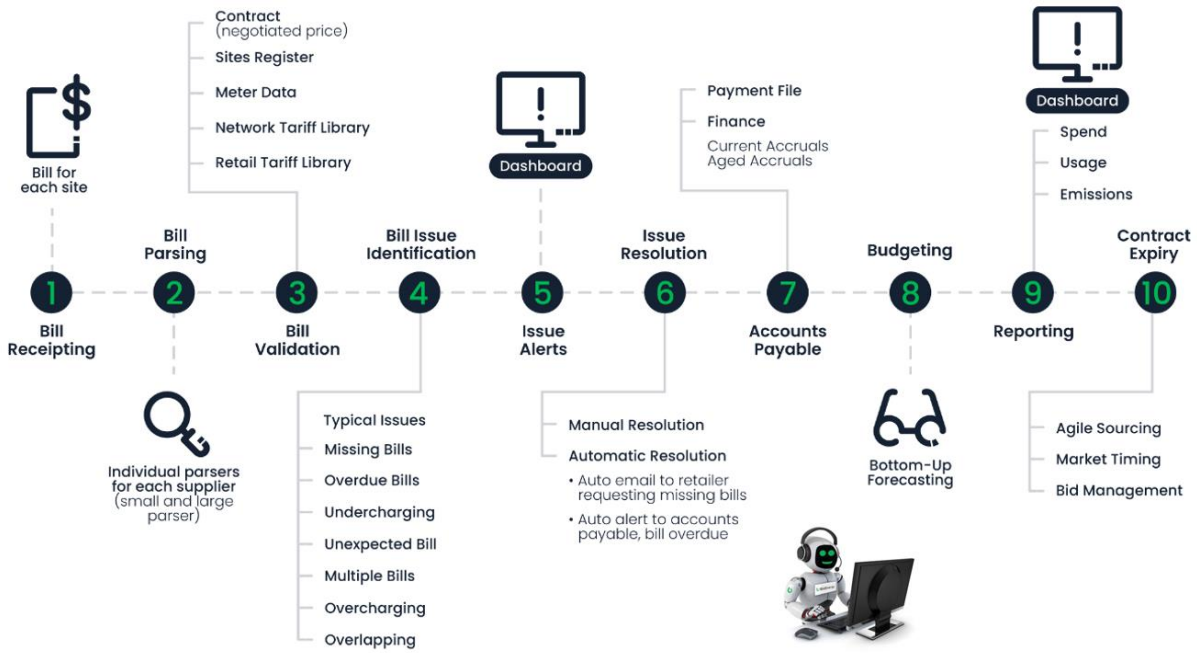




Site Comparison and Energy Intensity



Data Integrity and Assurance



What sets the BidEnergy Solution apart is our technology ensures the integrity of Emissions, Usage and Spending data. The function of the robotics is to manage this accurately, cost effectively and with the speed you need to ensure all stakeholders benefit across council departments. The robotic function is supported by a team of energy experts and dedicated account managers to cater to your individual council requirements and ensure you can make informed and strategic decisions about energy and provide quality information on how best to move toward zero emissions targets.

With access for unlimited users, data is accurate, quick and easy for all departmental stakeholders to access and manage. With customised profiles/logins to each job function and across each council privacy is assured with the added benefit of having an umbrella benchmarking tool across the group. In addition to this each council will have bespoke requirements based upon their unique requirements in the category and also dependent upon the number of sites they manage. Our proposal is to understand the unique requirements of each council and provide a solution and service (at a bulk site discount). Additions to the solution like paying bills on council behalf or running a procurement activity can be provided on an individual basis according to individual council requirements.

Thank you for the opportunity and I welcome any further questions and look forward hearing from you in the coming weeks.

Yours sincerely,

Anthony Vardon
Head of Sales – Southern

BidEnergy Platform

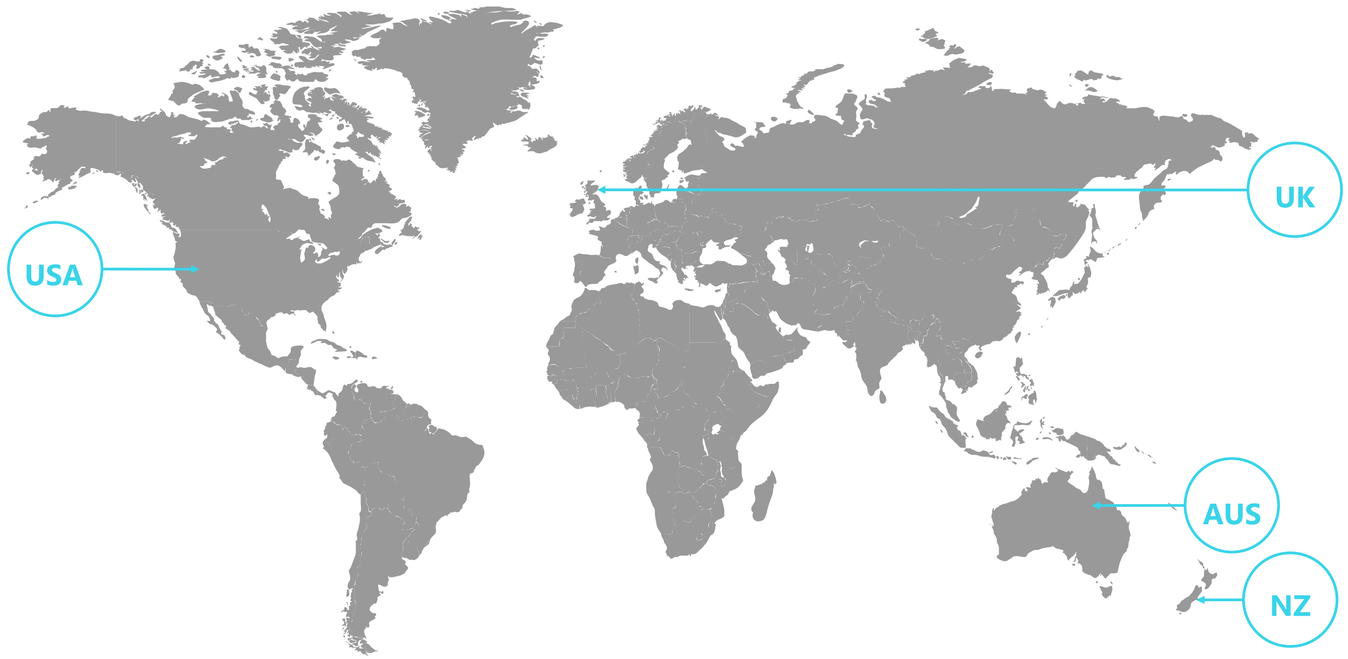
Ndevr Environmental arranged Presentation for:

Strathbogie, Murrindindi, Towong and Benalla Councils

BidEnergy

About BidEnergy

- First cloud platform powered by Robotic Process Automation (RPA) – global mega trend
- Operating in 4 countries with proven global capability Listed 2016 – ASX:BID, Market cap > $100M
- Providing multi-site enterprise customers with a complete Energy Spend Management (ESM) solution



BidEnergy

Multi-site clients in Australia, New Zealand, United Kingdom and the United States.

OPTUS
bp
FLIGHT CENTRE
ABC Television
THE REJECT SHOP
Yarra Valley Water
Fletcher Building
Nando's
Fulton Hogan
ive
Banyule CITY COUNCIL
Repco
Jemena bringing energy to life
FINDEX

BidEnergy

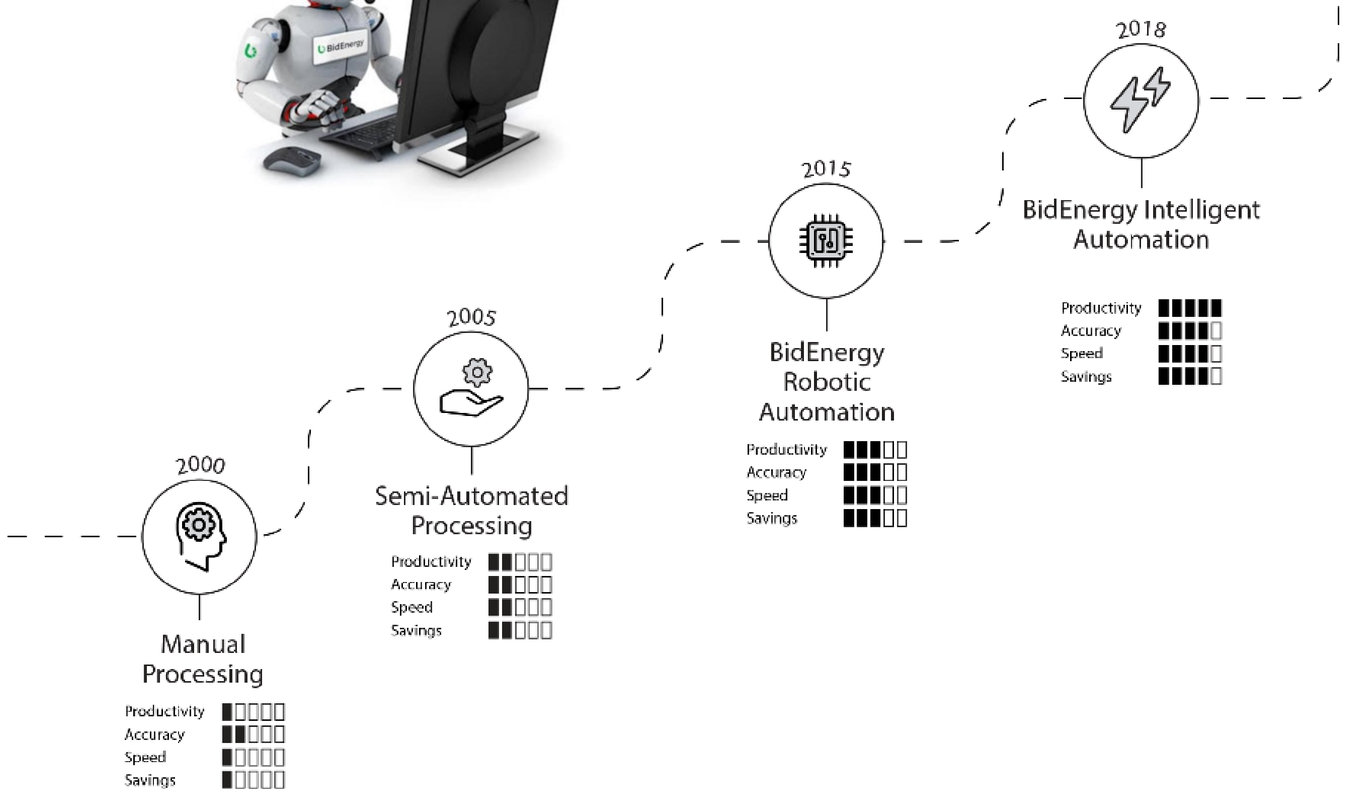
Energy Management - Typical multi-site pain points

Managing energy and emissions data across a multisite portfolio is complex, time-consuming and error-prone.

Manual or semi-automated processes are not capable of delivering a comprehensive and reliable solution for multi-site organisations

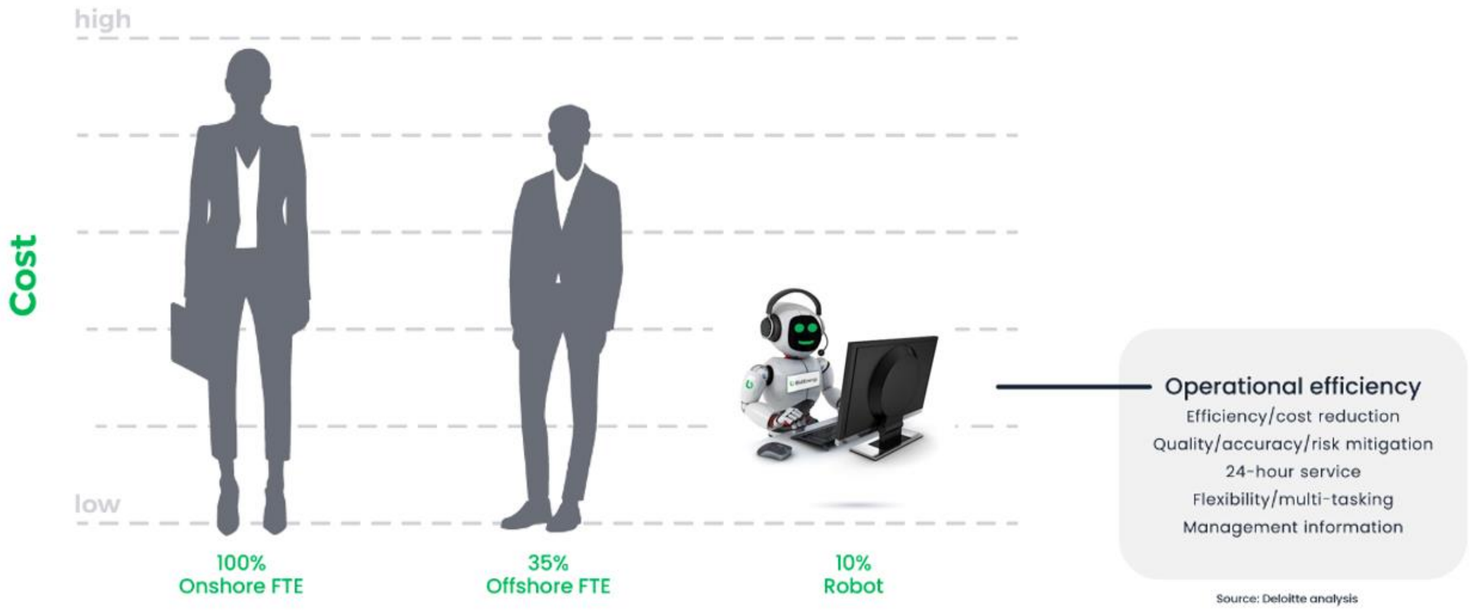
From survey of 300 multi-site companies:

ANSWER CHOICES	RESPONSES
Data access	38.71%
Data accuracy	48.39%
No reliable price benchmark	48.39%
Producing a reliable forecast	38.71%
Lack of in-house expertise	38.71%
Resource intensive	32.26%
Time to collect data and take to market	22.58%
Budget control	25.81%
Lack of supply competition	38.71%
Supplier billing errors	16.13%
Reliance on third parties	29.03%
Supplier disputes	6.45%

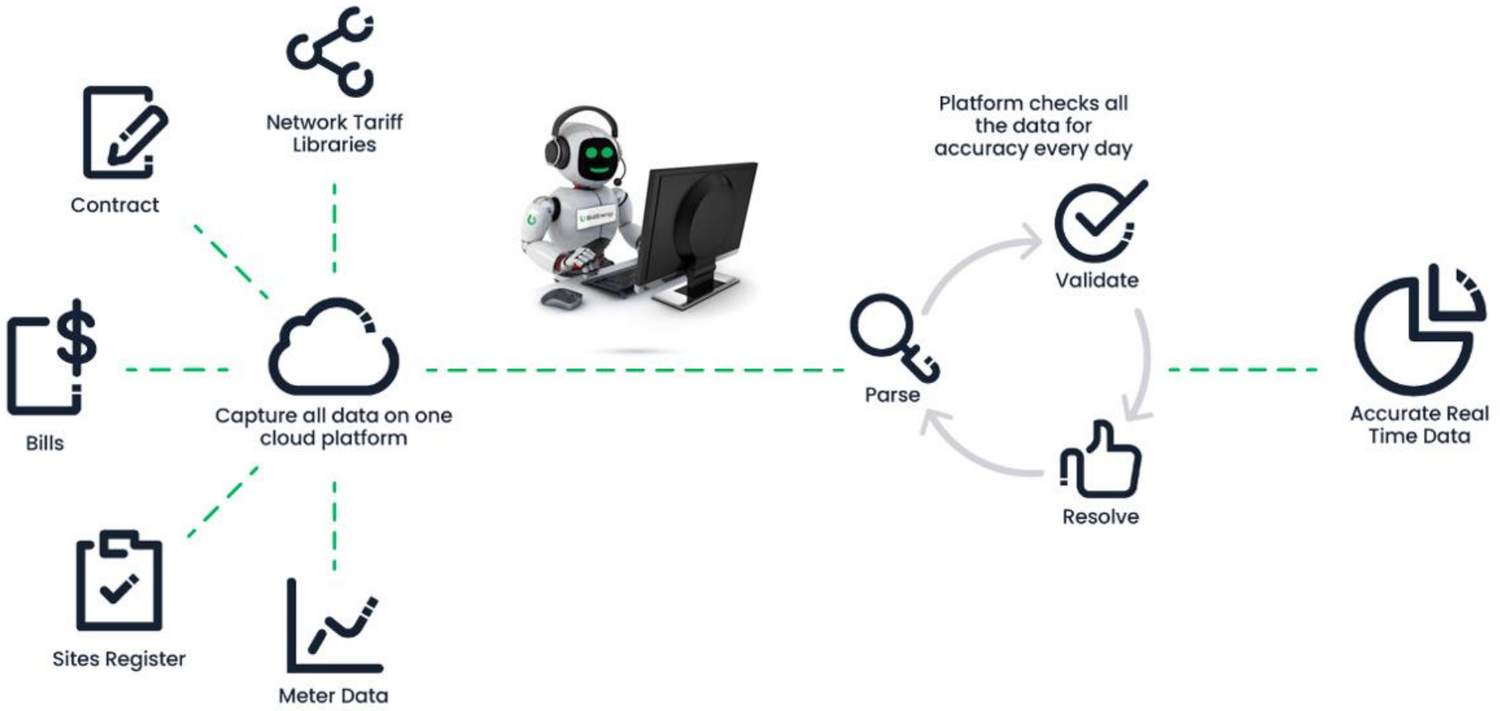


BidEnergy

Robot workers deliver the required accuracy/speed and low cost to serve for multi site energy portfolios



Robot workers continuously collect, validate and cleanse energy data



BidEnergy

Robot workers are involved at every stage of the energy spend management lifecycle

Robot workers manage all low value transactions over the full lifecycle

Freeing up our energy specialists to focus on higher value activities and delivering a superior client services

BidEnergy

Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

Welcome anthony.dupreez@biden... Logout A

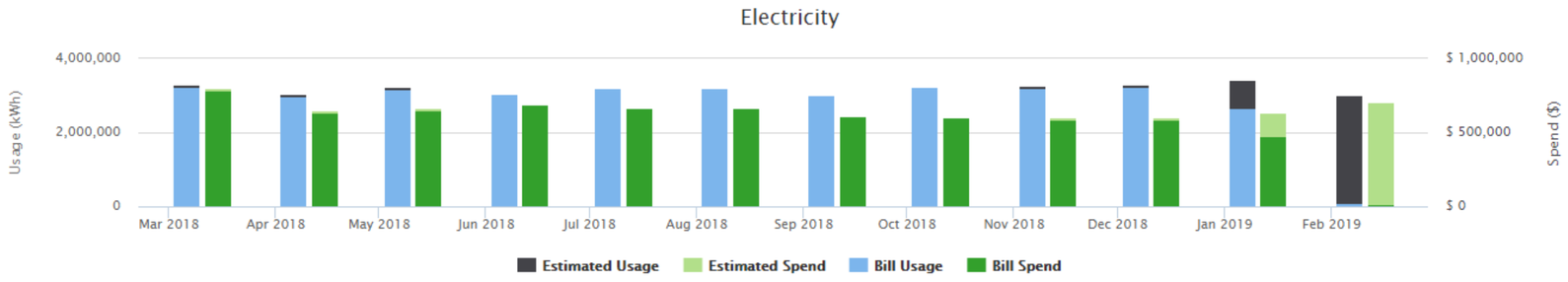
Dashboard (AU - Electricity)

Australia | Electricity | Updated 16 hours ago | Refresh | Edit Widget

Data Availability Status

Active Facilities	Facilities with recent interval data	Facilities eligible to receive interval data	Facilities with recent bills	Facilities with assigned network code	Data Availability score out of 10
63	0	0	63	63	10

Usage and Spend



Bills Received in last 7 days	16
New Charges	$ 475,256
Aged Accruals	$ 711,402
Current Month Forecast	$ 688,045
Buyer Alert	38
Overdue Bill Notices	8

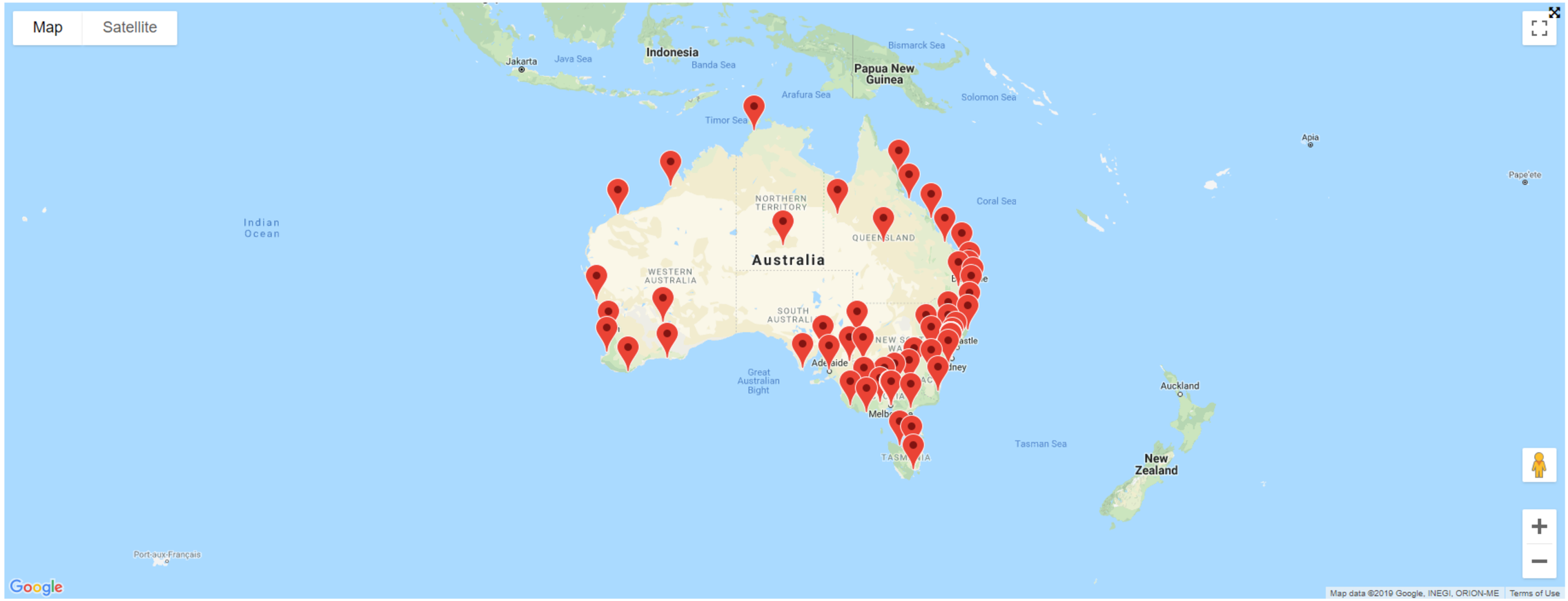
38,040,982 kWh	$ 7,853,978	$ 30,208
Total Usage	Total Spend	Implemented Savings to Date

BidEnergy

BidEnergy

Dashboard Facilities Validation Payment Accrual Budgets Market Procurement Contracts Reports Settings

Welcome anthony.dupreez@biden...
Logout



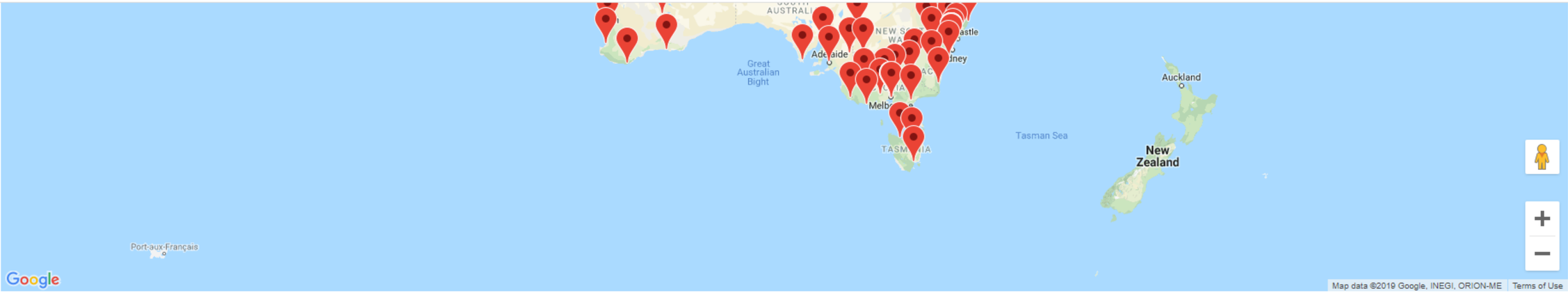
Top 10 Usage and Spend

BidEnergy

BidEnergy

Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

Welcome anthony.dupreez@biden...
Logout



Top 10 Usage and Spend

Top 10 Usage

Building A	10,262,136 kWh
Building B	5,271,652 kWh
ABC Adelaide	2,717,319 kWh
ABC Southbank	2,653,025 kWh
ABC Brisbane	2,481,812 kWh
ABC Southbank	2,399,673 kWh
ABC Perth East	2,188,118 kWh
ABC Hobart	1,846,574 kWh
ABC Darwin	1,293,968 kWh
ABC Canberra	1,211,477 kWh

Top 10 Spend

Building A	$ 1,904,662
Building B	$ 1,022,461
ABC Adelaide	$ 626,429
ABC Southbank	$ 518,313
ABC Southbank	$ 478,411
ABC Brisbane	$ 409,971
ABC Perth East	$ 363,478
ABC Canberra	$ 354,992
ABC Darwin	$ 339,962
ABC Hobart	$ 325,864

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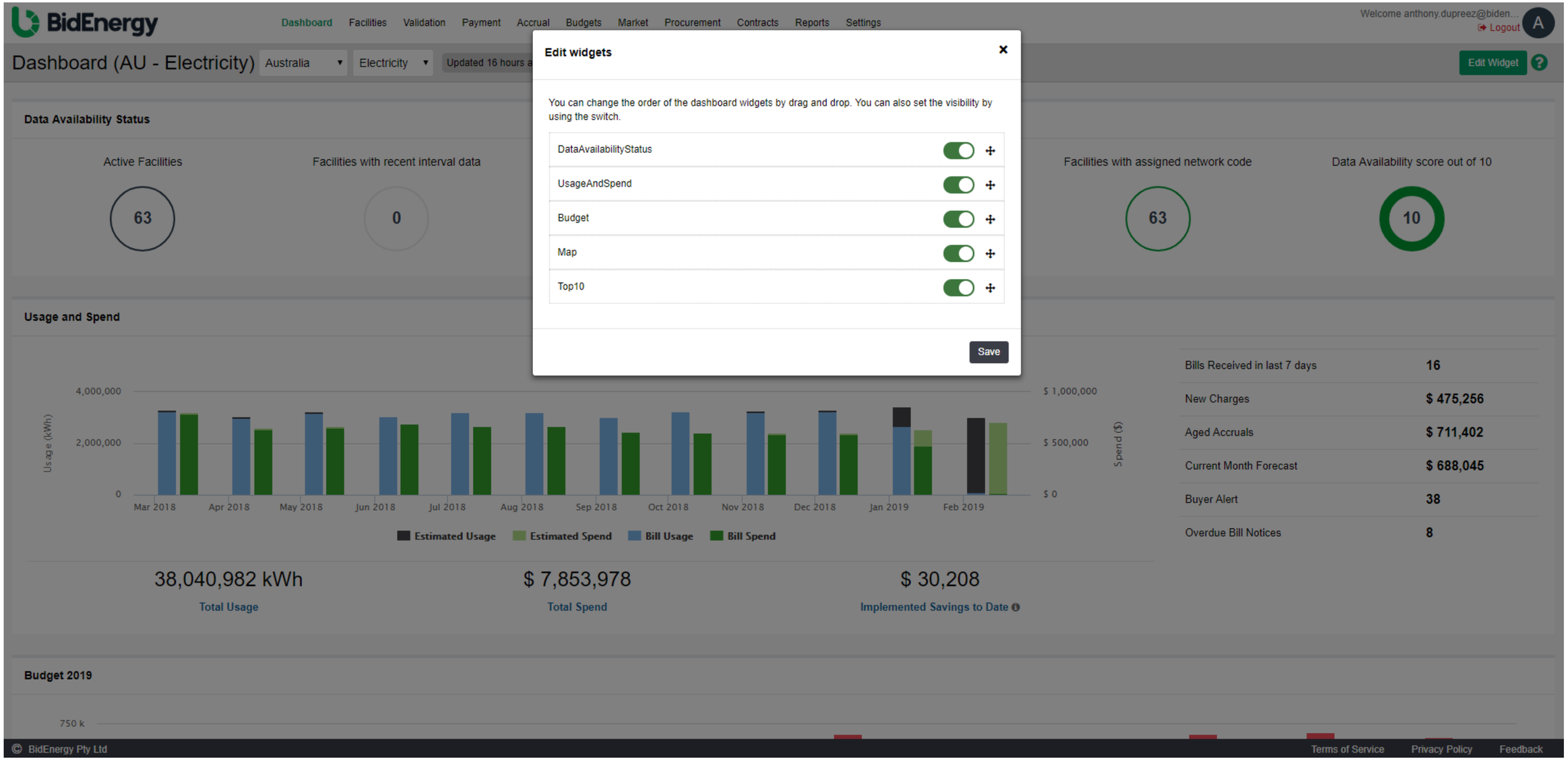
BidEnergy


BidEnergy
Dashboard
Facilities
Validation
Payment
Accrual
Budgets
Market
Procurement
Contracts
Reports
Settings
Welcome anthony.dupreez@biden...
Logout
Dashboard (AU - Electricity)
Australia
Electricity
Updated 16 hours a
Edit Widget
Edit widgets
You can change the order of the dashboard widgets by drag and drop. You can also set the visibility by using the switch.
DataAvailabilityStatus
UsageAndSpend
Budget
Map
Top10
Save
Data Availability Status
Active Facilities
63
Facilities with recent interval data
0
Facilities with assigned network code
63
Data Availability score out of 10
10
Usage and Spend
4,000,000
2,000,000
0
Usage (kWh)
$ 1,000,000
$ 500,000
$ 0
Spend ($)
Mar 2018
Apr 2018
May 2018
Jun 2018
Jul 2018
Aug 2018
Sep 2018
Oct 2018
Nov 2018
Dec 2018
Jan 2019
Feb 2019
Estimated Usage
Estimated Spend
Bill Usage
Bill Spend
38,040,982 kWh
Total Usage
$ 7,853,978
Total Spend
$ 30,208
Implemented Savings to Date
Bills Received in last 7 days 16
New Charges $ 475,256
Aged Accruals $ 711,402
Current Month Forecast $ 688,045
Buyer Alert 38
Overdue Bill Notices 8
Budget 2019
750 k
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Feedback

BidEnergy

BidEnergy

Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

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Facilities - Energy

Facilities Energy

Search by facility name, nmi, meter Id, or address

Australia

Filter by: Tags | Commodities | States | Suppliers/Utilities | Active | Apply

Displaying facilities with details, usage, bills and contracts

Show Invalid Bills

Export

Facilities	Usage	Spend	Effective Rate	Contracts	Meter Data Contracts	Last Billed By	Action
ABC Adelaide 85 North East Rd Collinswood, SA 5081 AU *Electricity* NMI: **SAAAAAA144** Cost Code: 175001	2,717,318 kWh/year	$ 626,429/year	23.05 c/kWh	Current Contract: EnergyAustralia Expiry: *30 Sep 2019*		Supplier: EnergyAustralia	Bills Facility Details Usage Contract
700 Harris Street ULTIMO , NSW 2007 AU *Gas* MIRN: **5240027022**	5,946,245 MJ/year	$ 145,068/year	2.44 c/MJ			Supplier: AGL	Bills Facility Details Usage
85 NORTH EAST RD COLLINSWOOD , SA 5081 AU *Gas* MIRN: **5510258919**	5,752,554 MJ/year	$ 113,944/year	1.98 c/MJ			Supplier: Origin	Bills Facility Details Usage
1 Wakefield Avenue Dickson, ACT 2602 AU *Gas* MIRN: **5260053996**	73,890 MJ/year	$ 25,985/year	35.17 c/MJ			Supplier: ActewAGL	Bills Facility Details Usage
30 Fielder Street East Perth, WA 6004 AU *Gas*	206,883 MJ/year	$ 9,316/year	4.50 c/MJ			Supplier: Kleenheat	Bills Facility Details

AU Electricity Summary

63	38,040,982 kWh	AUD $7,853,978
Active Facilities	Annual Usage	Annual Spend

AU Gas Summary

10	13,442,102 MJ	AUD $318,766
Active Facilities	Annual Usage	Annual Spend

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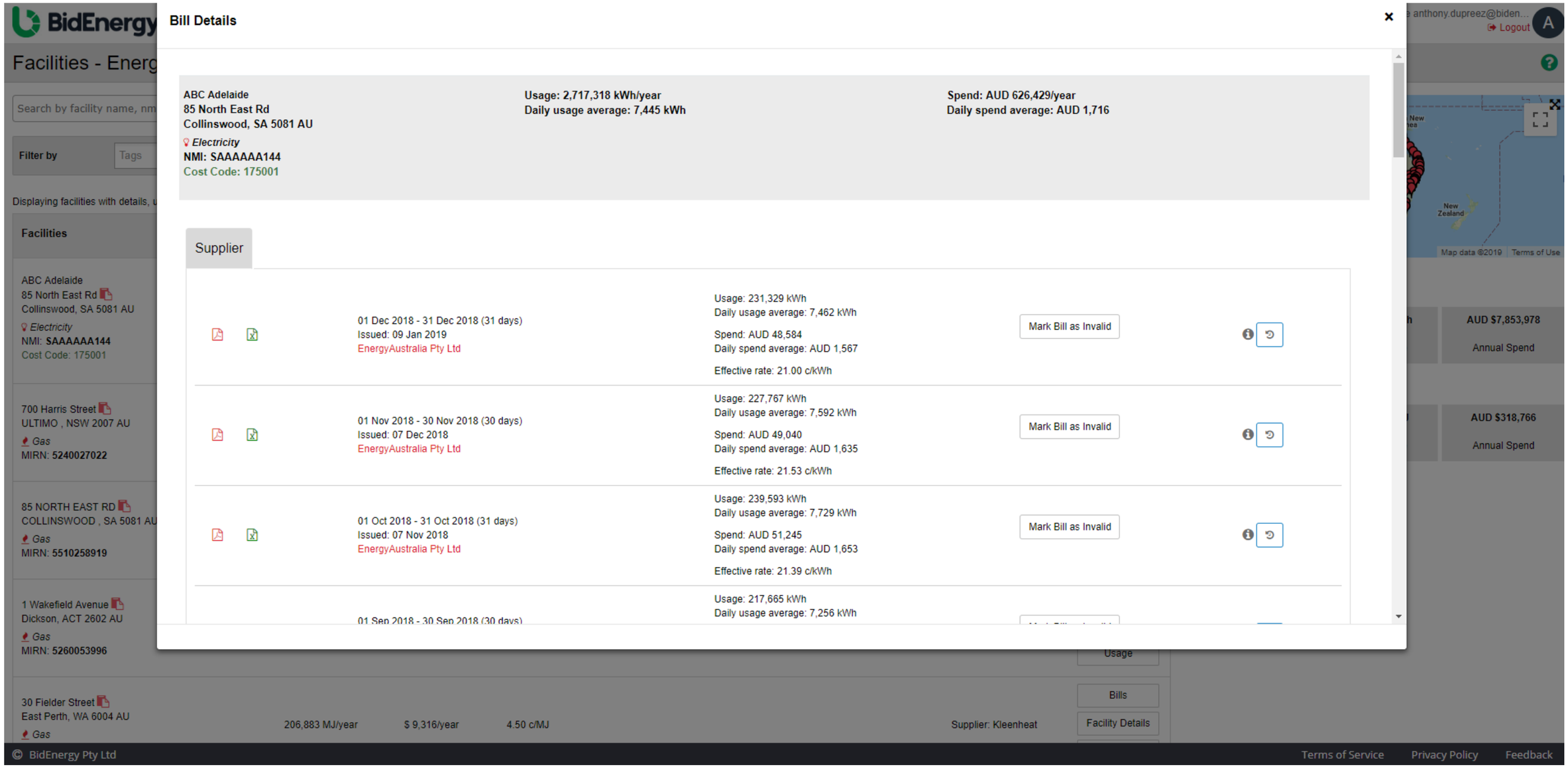
BidEnergy
Facilities - Energ
Search by facility name, nm
Filter by
Tags
Displaying facilities with details, u
Facilities
ABC Adelaide
85 North East Rd
Collinswood, SA 5081 AU
Electricity
NMI: SAAAAAA144
Cost Code: 175001
700 Harris Street
ULTIMO , NSW 2007 AU
Gas
MIRN: 5240027022
85 NORTH EAST RD
COLLINSWOOD , SA 5081 AU
Gas
MIRN: 5510258919
1 Wakefield Avenue
Dickson, ACT 2602 AU
Gas
MIRN: 5260053996
30 Fielder Street
East Perth, WA 6004 AU
Gas
206,883 MJ/year
$ 9,316/year
4.50 c/MJ
Supplier: Kleenheat
Usage
Bills
Facility Details
Bill Details
ABC Adelaide
85 North East Rd
Collinswood, SA 5081 AU
Electricity
NMI: SAAAAAA144
Cost Code: 175001
Usage: 2,717,318 kWh/year
Daily usage average: 7,445 kWh
Spend: AUD 626,429/year
Daily spend average: AUD 1,716
Supplier
01 Dec 2018 - 31 Dec 2018 (31 days)
Issued: 09 Jan 2019
EnergyAustralia Pty Ltd
Usage: 231,329 kWh
Daily usage average: 7,462 kWh
Spend: AUD 48,584
Daily spend average: AUD 1,567
Effective rate: 21.00 c/kWh
Mark Bill as Invalid
01 Nov 2018 - 30 Nov 2018 (30 days)
Issued: 07 Dec 2018
EnergyAustralia Pty Ltd
Usage: 227,767 kWh
Daily usage average: 7,592 kWh
Spend: AUD 49,040
Daily spend average: AUD 1,635
Effective rate: 21.53 c/kWh
Mark Bill as Invalid
01 Oct 2018 - 31 Oct 2018 (31 days)
Issued: 07 Nov 2018
EnergyAustralia Pty Ltd
Usage: 239,593 kWh
Daily usage average: 7,729 kWh
Spend: AUD 51,245
Daily spend average: AUD 1,653
Effective rate: 21.39 c/kWh
Mark Bill as Invalid
01 Sep 2018 - 30 Sep 2018 (30 days)
Usage: 217,665 kWh
Daily usage average: 7,256 kWh
AUD $7,853,978
Annual Spend
AUD $318,766
Annual Spend
Map data ©2019
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Back

Facility Details - SAAAAAA144

Facility Information | Supplier/Utility | Contact Setup | Facility Closing | Admin Setting

Facility Address - Location

Facility Name	ABC Adelaide	Address	85 North East Rd	Country	Australia
State	SA	Suburb	Collinswood	Postcode	5081
Reference	*Eg: Property, Factory*	Reference 2		Reference 3	
		Reference 4		Reference 5	
Business Unit		Tag	*You can have multiple Tags separated by comma*	Area Size (sqm)	0.00

Facility Mailing Address - For Billing

Address 1		Address 2		Country	Australia
State	Select State	Suburb		Postcode	

Facility Allocation

Cost Code	175001	GL Code	46570

Update

Map View

Note

ashwini.ramamurthy@bidenergy.com note added.

Retailer Time Mask is updated to AU-RETAIL-SA

506 days ago at 2:15 PM on 27 Sep 2017

nisha.singh@bidenergy.com note added.

Retailer Time Mask is updated to AU-RETAIL-SA

519 days ago at 3:03 PM on 14 Sep 2017

ashwini.ramamurthy@bidenergy.com note added.

Retailer Time Mask is updated to AU-RETAIL-SA

560 days ago at 3:12 PM on 04 Aug 2017

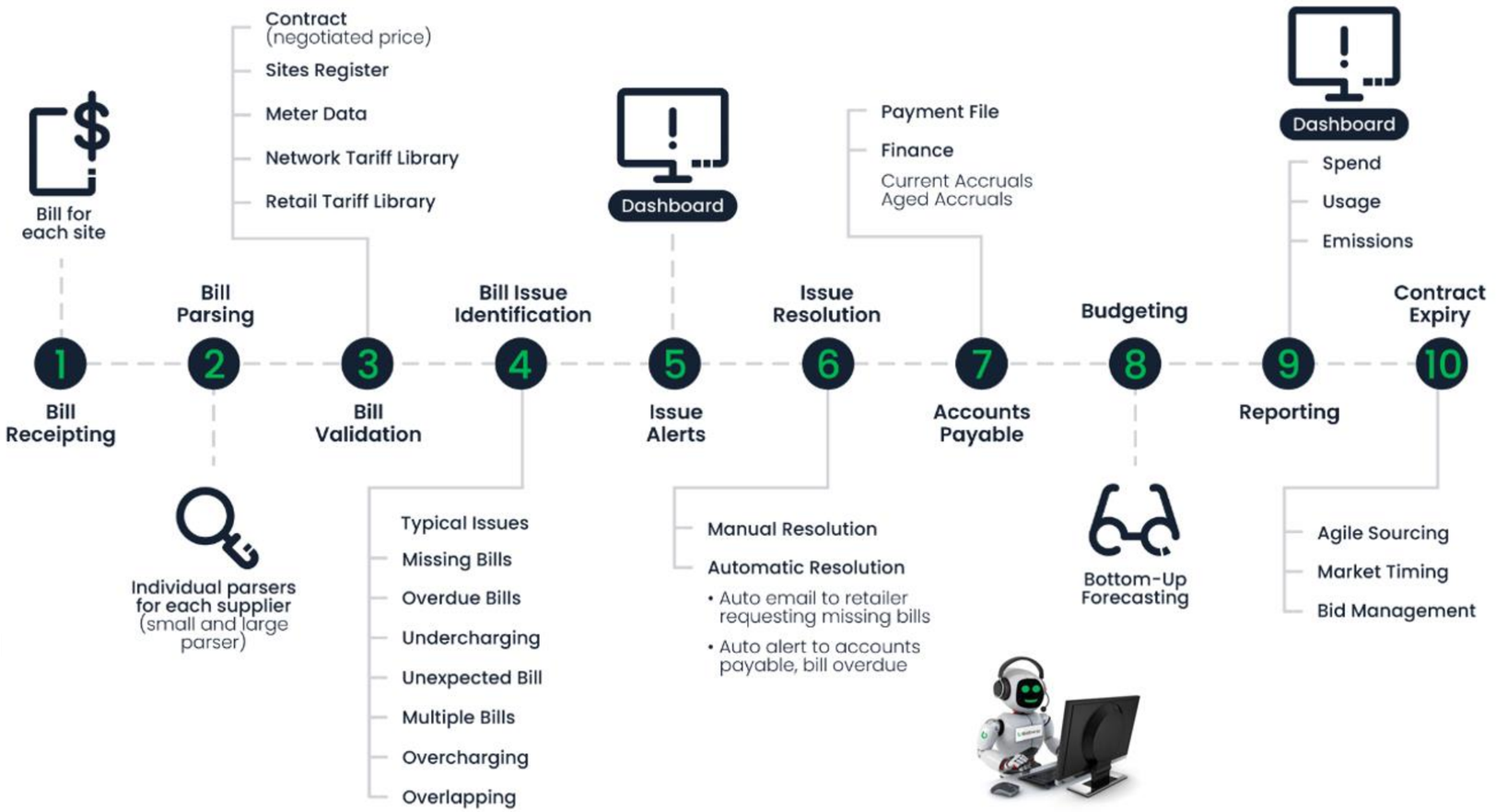
insert your comment

Public Internal

Add Note

BidEnergy

Fully automated validation of every bill and every data source



The robot workers run four levels of validation on every bill

Level 1 – Receipt checks

Level 2 – Integrity checks

Level 3 – Tolerance checks

Level 4 – Match checks

BidEnergy

Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

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Validation

- Buyer Alert
- In Progress
- Resolved

Buyer Alert - Australia (73)

Australia

Search by facility name, nmi, meter Id, or address

Filter by: Tags | Commodities | States | Suppliers/Utilities | Apply

Advanced Filters

Issue date: From / To

Covering Period: From / To

Group By: Site

Alert Type: Select issue type

Display Actioned Issues

Display Disputed Issues

Validation check completed on all facilities of which facilities below have 73 bill alerts

Date range 01 Dec 2018 – 15 Feb 2019 Filter

Export

Facility	Usage & Spend		Bill Period		Last Billed By		Action
114 GREY ST SOUTH Brisbane, QLD 4101 AU *Gas* MIRN: **5410143178**	Usage (MJ): Amount Incurred (AUD ex.GST): Amount Due (AUD inc.GST):	12,282 $375.18 $740.71	09 Jan 2019 - 07 Feb 2019 Issued: Captured:	 08 Feb 2019 09 Feb 2019	Origin Energy Electricity Limited Acc No.: 400 007 705 629	Alert (2)	Bill Journaled
30 Fielder Street East Perth, WA 6004 AU *Gas* MIRN: **5600595107**	Usage (MJ): Amount Incurred (AUD ex.GST): Amount Due (AUD inc.GST):	9,190 $115.25 $303.50	02 Jan 2019 - 04 Feb 2019 Issued: Captured:	 05 Feb 2019 05 Feb 2019	Waestfarmers Kleenheat Gas Pty Ltd Acc No.: 1828665	Alert (1)	Bill Journaled
Studio 26 6 Lanceley Place Artarmon, NSW 2064 AU *Electricity* NMI: **NCCC007049** Cost Code: 172025	Usage (kWh): Amount Incurred (AUD ex.GST): Amount Due (AUD inc.GST):	11,988 $4,581.37 $10,183.97	01 Jan 2019 - 31 Jan 2019 Issued: Captured:	 04 Feb 2019 05 Feb 2019	AGL Energy Limited Acc No.: 1105 8138	Alert (1)	Bill Journaled
Building B 700 Harris St Ultimo, NSW 2007 AU *Electricity* NMI: **4103550712** Cost Code: 172001	Usage (kWh): Amount Incurred (AUD ex.GST): Amount Due (AUD inc.GST):	452,704 $82,182.34 $174,372.67	01 Jan 2019 - 31 Jan 2019 Issued: Captured:	 01 Feb 2019 02 Feb 2019	AGL Energy Limited Acc No.: 1105 8112	Alert (1)	Bill Journaled

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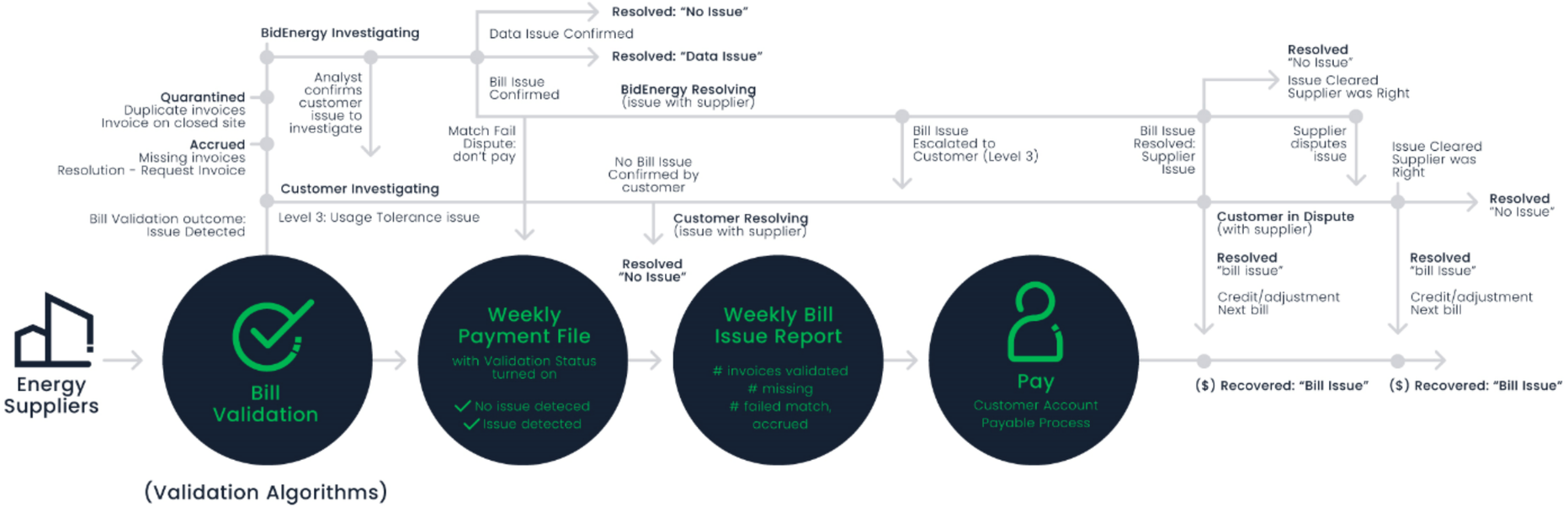
BidEnergy

Bill Issue Resolution Process

Lifecycle of an Issue

1. Validating - Data or Bill issue detected during the validation process
2. Investigating - either by us or the customer. Issue is confirmed as data or bill issue or cleared as no issue
3. Resolving - bill issue confirmed, supplier notified, resolve issue, credit/adjustment next bill
4. Resolved - issue is closed, final status assigned - no issue, data issue, supplier issue (bill issue)
5. Recovered - dollars recovered from supplier



(Validation Algorithms)

- Contract (negotiated prices)
- Sites Register
- Meter Data
- Network Tariff Library
- Retail Tariff Library

Validation Levels

- Level 1: Data Receipt checks
- Level 2: Data Complete checks
- Level 3: Invoice Tolerance checks
- Level 4: Invoice Match checks
- Level 5: Cost controls checks

Issue Resolution Status

- Resolved: Data issue
- Resolved: No issue
- Resolved: Bill issue (supplier issue)
- Recovered: Dollars hit customer bank
- Accrued
- Quarantined

Issue Escalation

- Level 1: Platform resolves
- Level 2: BidEnergy Analyst resolves
- Level 3: Customer required to resolve

Issue Management Status

- BidEnergy Investigating
- Customer Investigating
- BidEnergy Resolving (issue with supplier)
- Customer Resolving (issue with supplier)
- Customer in Dispute (with supplier)

BidEnergy

Validation

- Buyer Alert
- In Progress
- Resolved

In Progress (3)

Australia

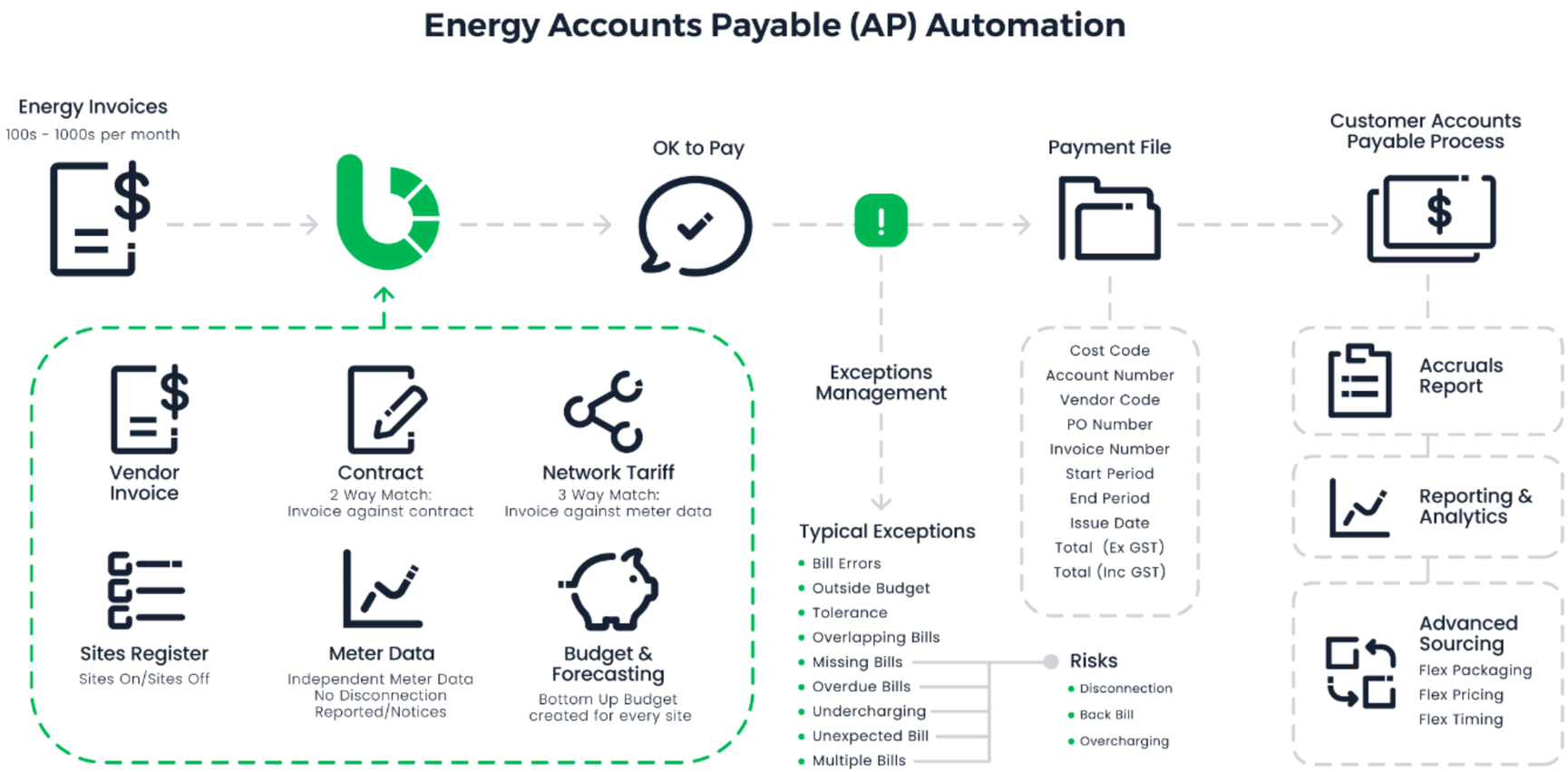
Filter by | global search... | Retailer | Select bill issue type | Search

Date range 01 Dec 2018 15 Feb 2019 Filter

Export Csv < 1 >

Issue Type	Bill	Description	Assign	Status	Resolution Type	Comment
ExcessiveUsageVariation	ABC - TasGas - 5764500714 - Gas 18 Oct 2018 - 17 Jan 2019 issued 24 Jan 2019	Extreme usage variation.Bill Usage: 20 Mj/day, Last Bill Usage : 312Mj/day Default Config value: 50.00000%	Admin	InProgress		**Email sent, waiting for response - Confirmation of usage Site - 5764500714**
DiscountMismatch	ABC - EnergyAustralia - 4102347923 - Electricity 01 Sep 2018 - 29 Nov 2018 issued 06 Dec 2018	Discount pct is different from contract (06 Mar 2018 - 30 Sep 2019). Bill discount 10.00%, Contracted discount: 26.00% Default Config value: $5.00000	Admin	InProgress		**Email sent, waiting for response - Discount Mismatch Sites - 4103551077 / 4102347923**
DiscountMismatch	ABC - EnergyAustralia - 4102347923 - Electricity 04 Jun 2018 - 31 Aug 2018 issued 05 Sep 2018	Discount pct is different from contract (06 Mar 2018 - 30 Sep 2019). Bill discount 10.00%, Contracted discount: 26.00% Default Config value: $5.00000	Admin	InProgress		**Email sent, waiting for response - Discount Mismatch Sites - 4103551077 / 4102347923**

First platform to offer fully automated straight through payment processing



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Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

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Payments

- New Charges Report
- Payment File Journal
- Overdue Notices

New Charges Report - Australia

Australia

Search by facility name, nmi, meter Id, or address

Filter by: Tags | Commodities | States | Suppliers/Utilities | Apply

Advanced Filters

Displaying new charges report with 122 latest bills from 73 facilities

Show Historical

Export

Facility	Spend	Bill Period	Last Billed By	Status	Approved By
ABC South West WA 72 Wittenoom Street Bunbury, WA 6230 AU *Electricity* NMI: **8001014836** Cost Code: 176005	Incurred (AUD ex.GST): $1,515.05 Incurred (AUD inc.GST): $1,666.55 **Due** (AUD inc.GST): $1,666.55	09 Jan 2019 - 07 Feb 2019 Issued: 13 Feb 2019 Captured: 14 Feb 2019 **Due Date:** 15 Mar 2019	Alinta Acc No.: 80011441 GL Code: 46570	Unjournaled	
ABC Perth East 30 Fielder Street East Perth, WA 6004 AU *Electricity* NMI: **8001004325** Cost Code: 176011	Incurred (AUD ex.GST): $31,033.50 Incurred (AUD inc.GST): $34,136.85 **Due** (AUD inc.GST): $34,136.85	12 Jan 2019 - 11 Feb 2019 Issued: 12 Feb 2019 Captured: 13 Feb 2019 **Due Date:** 14 Mar 2019	Alinta Acc No.: 80011440 GL Code: 46570	Unjournaled	
ABC Goldfields -Kalgoorlie Quartz Centre - Unit 3 353 Hannan Street Kalgoorlie, WA 6430 AU *Electricity* NMI: **8001016169** Cost Code: 176002	Incurred (AUD ex.GST): $1,710.37 Incurred (AUD inc.GST): $1,881.42 **Due** (AUD inc.GST): $1,881.42	12 Jan 2019 - 11 Feb 2019 Issued: 12 Feb 2019 Captured: 13 Feb 2019 **Due Date:** 14 Mar 2019	Alinta Acc No.: 80011443 GL Code: 46570	Unjournaled	
ABC Mid West WA 245 Marine Terrace Geraldton, WA 6530 AU *Electricity* NMI: **8001008598** Cost Code: 176003	Incurred (AUD ex.GST): $1,607.73 Incurred (AUD inc.GST): $1,768.50 **Due** (AUD inc.GST): $1,768.50	12 Jan 2019 - 11 Feb 2019 Issued: 12 Feb 2019 Captured: 13 Feb 2019 **Due Date:** 14 Mar 2019	Alinta Acc No.: 80011444 GL Code: 46570	Unjournaled	
114 GREY ST SOUTH Brisbane, QLD 4101 AU	Incurred (AUD ex.GST): $375.18	09 Jan 2019 - 07 Feb 2019 Issued: 08 Feb 2019	Origin	Journaled	

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BidEnergy

Payments

New Charges Report
Payment File Journal
Overdue Notices

Payment File Journal

Filter by group: All

Date range: From To Apply

Created On
12 Feb 2019
05 Feb 2019
29 Jan 2019
22 Jan 2019
15 Jan 2019
08 Jan 2019
01 Jan 2019
18 Dec 2018
11 Dec 2018
04 Dec 2018
27 Nov 2018
20 Nov 2018
13 Nov 2018
06 Nov 2018
30 Oct 2018

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Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

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Accrual

- Aged Accrual
- Current Month Forecast
- Current Accrual
- Accrual Journal

Aged Accrual - Australia **AUD $718,011**

Australia

Search by facility name, nmi, meter Id, or address

Filter by | Tags | Commodities | States | Suppliers/Utilities | Apply

Include $0 Accrual

Export

	Facility	Estimated Accrual	Last Billed By	Accrual Information
	ABC North and West SA 85 Grey Street Port Pirie, SA 5540 AU *Electricity* NMI: **2001007390** Cost Code: 175002	AUD $107	EnergyAustralia Pty Ltd Acc No.: 8535 045 944	Last Bill Date: 30 Jan 2019 Days Since Last Bill: 1 day Unbilled Usage: 284 kWh Accrual Effective Rate: 37.7384 c/kWh
	ABC Riverland SA Ral Ral Avenue Renmark, SA 5341 AU *Electricity* NMI: **2001008769** Cost Code: 175004	AUD $5,922	EnergyAustralia Pty Ltd Acc No.: 6778 269 813	Last Bill Date: 12 Nov 2018 Days Since Last Bill: 80 days Unbilled Usage: 15,631 kWh Accrual Effective Rate: 37.8832 c/kWh
	ABC Eyre Peninsular and West Coast SA Civic Centre, 60 Tasman Terrace Port Lincoln, SA 5606 AU *Electricity* NMI: **2001424761** Cost Code: 175006	AUD $1,271	EnergyAustralia Pty Ltd Acc No.: 9917 457 751	Last Bill Date: 10 Jan 2019 Days Since Last Bill: 21 days Unbilled Usage: 3,347 kWh Accrual Effective Rate: 37.9871 c/kWh
	ABC South East SA 31 Penola Rd. Mt Gambier, SA 5290 AU *Electricity* NMI: **2001588337** Cost Code: 175003	AUD $1,584	EnergyAustralia Pty Ltd Acc No.: 3821 520 309	Last Bill Date: 08 Jan 2019 Days Since Last Bill: 23 days Unbilled Usage: 4,198 kWh Accrual Effective Rate: 37.7253 c/kWh
	ABC Darwin			

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BidEnergy

Budget scenarios can be created in seconds

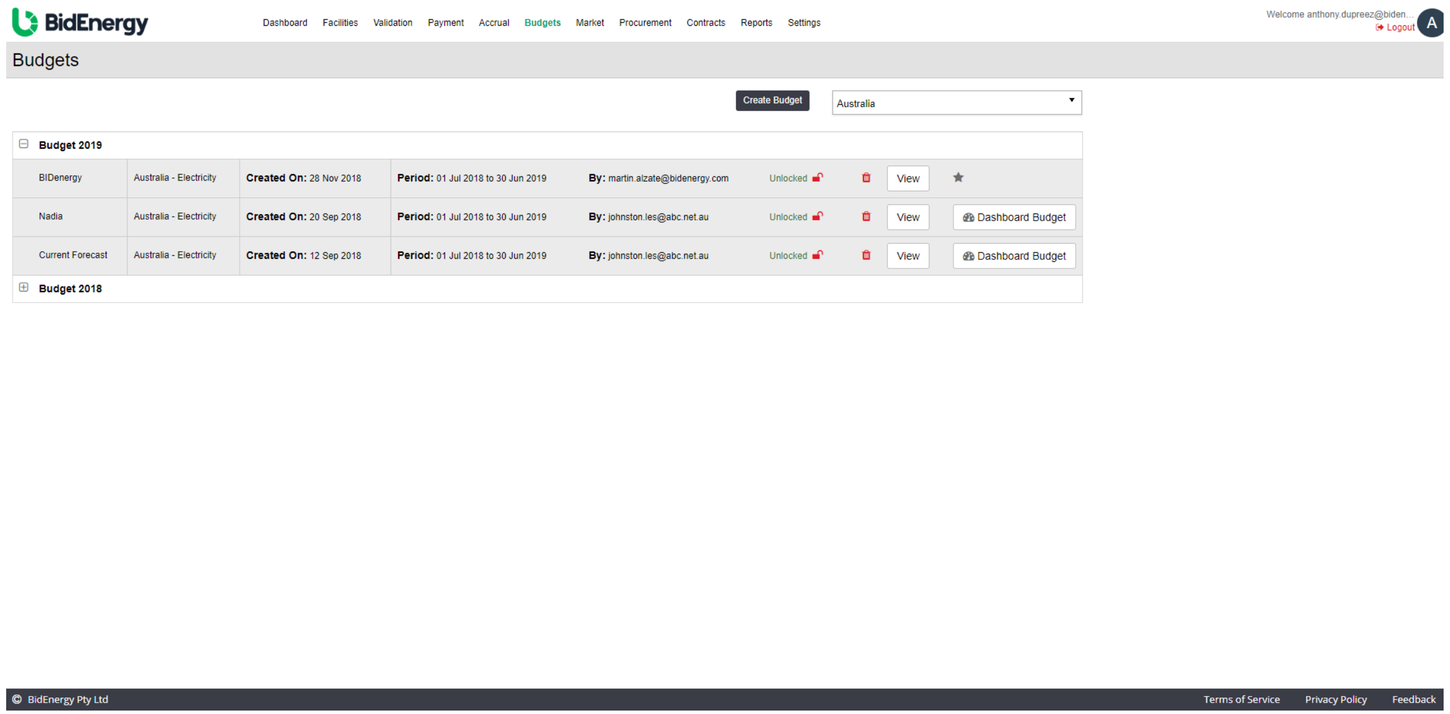
Base case budget created in seconds as accurate data always available

Base case budget can be modified to build in expectations

- Energy consumption e.g. activity, weather
- Energy price forecasts
- Network tariffs changes
- Site opening and closures
- Enviro charges
- Taxes and levies

Multiple budgets with different scenarios can be created

Regular re-forecasting adjust settings based on new information – energy prices, changes to consumption, changes to weather forecasts etc.



BidEnergy

Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

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Back | View Budget

Start Tour

Budget | Forecast | Analysis

Budget Period: Jul 2018-Jun 2019
Budget Name BIDenergy
Budget Type: Australia - Electricity
Facilities: 63
Author: martin.alzate@bidenergy.com
Status: Unlocked

Scenarios New Lock

Base Scenario

Adjustments

Basic | Advanced | Pro

Adjust components based on states

All

Small Sites

Total Spend (%) 0.00

Large Sites

Energy (%) 0.00
Network (%) 0.00
Metering (%) 0.00
Environment (%) 0.00
Other (%) 0.00

Timeline Adjustment

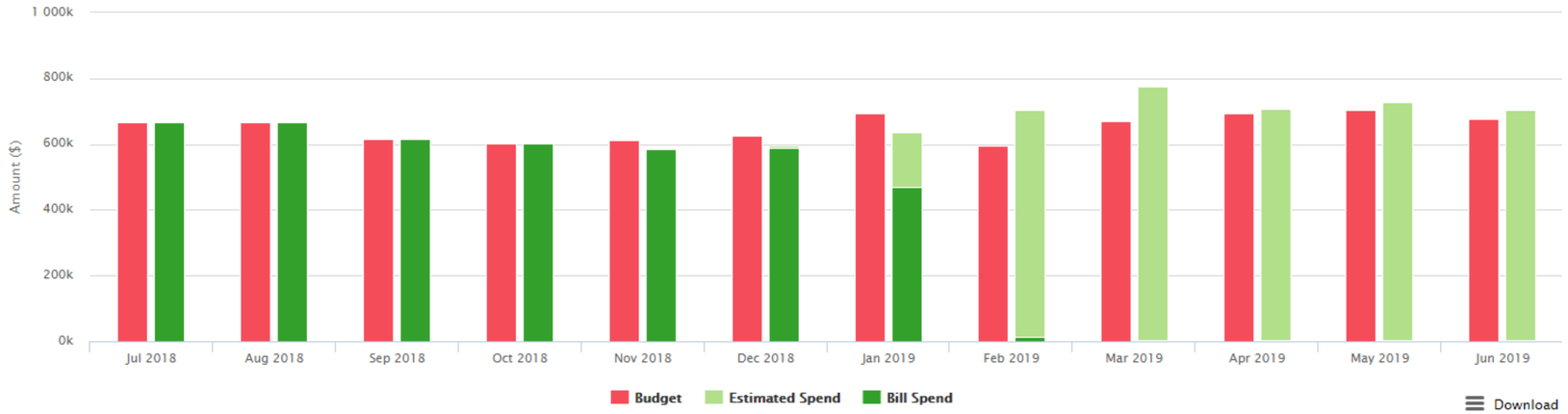
Reset | Apply

Search by facility name, nmi, meter Id, or address

Filter by | Tags | States | Suppliers/Utilities | Apply Filter

Export

Budget vs Actual



Download

Click on any bar in the graph to show Facility data for that month
**Data might be delayed by up to 6 hours*

Annual Budget $7,820,813

YTD Actual $4,209,638
Actual Bill Spend till date

Estimated EOY $7,990,463
Actual + Estimated spend for the complete budget period

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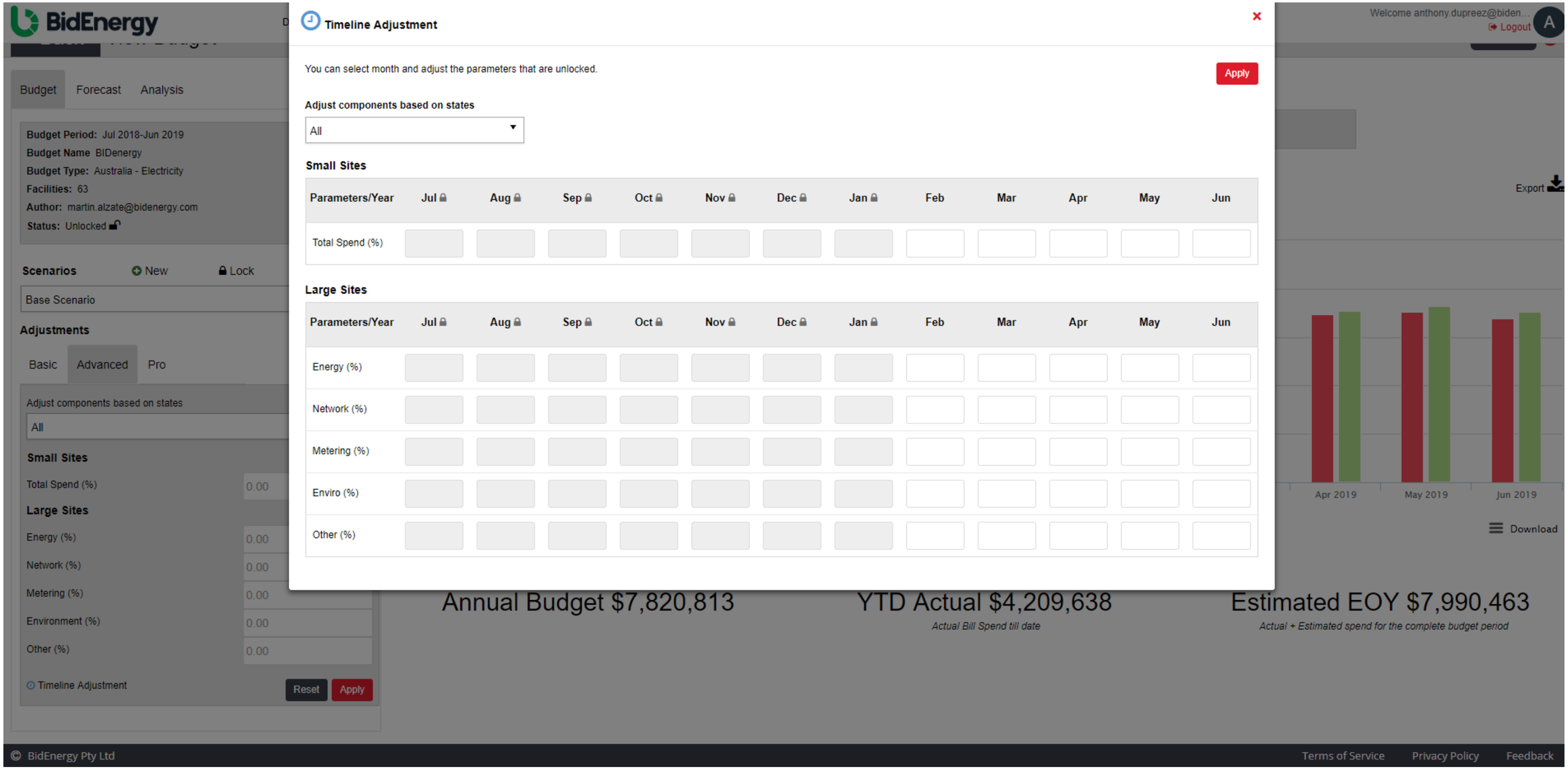
BidEnergy


BidEnergy
Welcome anthony.dupreez@biden...
Logout
Budget
Forecast
Analysis
Budget Period: Jul 2018-Jun 2019
Budget Name BIDenergy
Budget Type: Australia - Electricity
Facilities: 63
Author: martin.alzate@bidenergy.com
Status: Unlocked
Scenarios
New
Lock
Base Scenario
Adjustments
Basic
Advanced
Pro
Adjust components based on states
All
Small Sites
Total Spend (%)
Large Sites
Energy (%)
Network (%)
Metering (%)
Environment (%)
Other (%)
Timeline Adjustment
Reset
Apply
Export
Apr 2019
May 2019
Jun 2019
Download
Annual Budget $7,820,813
YTD Actual $4,209,638
Actual Bill Spend till date
Estimated EOY $7,990,463
Actual + Estimated spend for the complete budget period
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Feedback
Timeline Adjustment
You can select month and adjust the parameters that are unlocked.
Apply
Adjust components based on states
All
Small Sites
Large Sites
Parameters/Year
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Total Spend (%)
Energy (%)
Network (%)
Metering (%)
Enviro (%)
Other (%)

BidEnergy

Environment (%) 0.00

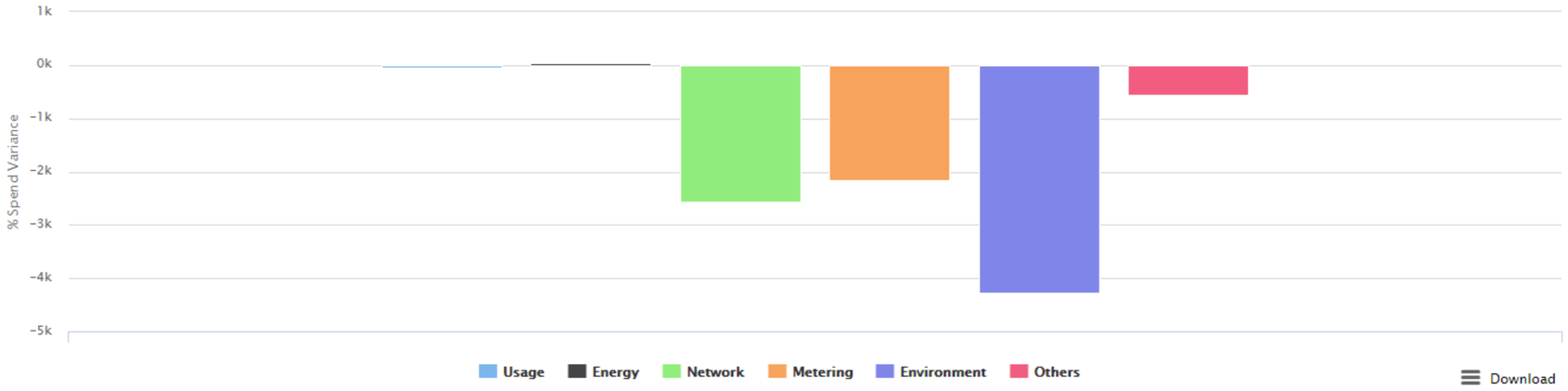
Other (%) 0.00

Timeline Adjustment Reset Apply

Actual Bill Spend till date *Actual + Estimated spend for the complete budget period*

Export Variance Report

Spend Variance Allocation – November 2018 (Total $21,305.51)



Component	Total Variance	Variance Percentage (November 2018)
Usage Variance	-124,279.54 kWh	-4.04 %
Energy	$ 257,065.48	42.55 %
Network	$ -174,475.57	-2,563.51 %
Metering	$ -3,085.94	-2,160.11 %
Environmental	$ -67,364.71	-4,275.63 %
Others	$ 9,166.25	-553.33 %

View By Spend Variance

Export Details

Facility	Usage Variance	Budgeted Spend - November 2018	Actual Spend - November 2018	Spend Variance	Comment

BidEnergy

Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

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Contracts

Filter by | Commodities | Type | States | Suppliers/Utilities | From | To | Apply

☐ Include Expired Contracts ☐ Include Rolling Contracts

Contract Information	Category	Contract Status	Type	Start Date	End Date	Status	
AGL Electricity AU:NSW ABC	Non-Contest	Current	Energy Only	01 Oct 2018	30 Sep 2019	Completed 25 Sep 2017 16:50 ashwini.ramamurthy@bidenergy.com	Contract View Details Trades
Alinta Electricity AU:WA ABC	Non-Contest	Current	Energy Only	01 Oct 2017	30 Sep 2019	Completed 27 Sep 2017 15:05 ashwini.ramamurthy@bidenergy.com	Contract View Details Trades
Aurora Electricity AU:TAS ABC	Non-Contest	Current	Energy Only	01 Oct 2017	30 Sep 2019	Completed 20 Nov 2017 14:33 ashwini.ramamurthy@bidenergy.com	Contract View Details Trades
EnergyAustralia Electricity AU:ACT ABC	Non-Contest	Current	Energy Only	01 Oct 2017	30 Sep 2019	Completed 27 Sep 2017 14:19 ashwini.ramamurthy@bidenergy.com	Contract View Details Trades
EnergyAustralia Electricity AU:VIC,AU:NSW ABC	Non-Contest	Current	Bundled	01 Oct 2017	30 Sep 2019	Completed 25 Sep 2017 17:15 ashwini.ramamurthy@bidenergy.com	Contract View Details
EnergyAustralia Electricity AU:SA	Non-Contest	Current	Energy Only	01 Oct 2017	30 Sep 2019	Completed 27 Sep 2017 14:17 ashwini.ramamurthy@bidenergy.com	Contract View Details

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BidEnergy

Back Contract Details - Energy Only

- Contracting Process
- Contracted Facilities
- Removed Facilities
- Environment
- Contract Performance
- Provided Documents
- Cancel Contract Group

Buyer Infomation

Company Name	Australian Broadcasting Commission
ABN	Australian Broadcasting Commission
Address	ABC Ultimo Centre 700 Harris St Ultimo AU:NSW 2007

Supplier Infomation

Company Name	AGL Energy Limited
ABN	74115061375
Address	Level 22 120 Spencer Street Melbourne VIC 3000

Contracting Process

Contract Preparation
Supplier provides contract.

→

Supplier Contract Verification
BidEnergy checks contract details.

→

Buyer Execution
Customer signs and uploads contracts.

→

Buyer Contract Verification
BidEnergy checks contract details.

→

Supplier Acceptance
Supplier provides countersigned contract or indicates acceptance.
25 Sep 2017 16:50

→

Completed
Change status Buyer notified of supplier acceptance. Contract is complete.
25 Sep 2017 16:50

Group Contract Manager

Email ashwini.ramamurthy@bidenergy.com Save

Please add/Update group contract manager email address here

Contracted Facilities- Electricity

Displaying 16 facilities with active contracts

Site	Address	State	Contract Start	Contract End

BidEnergy

Dashboard Facilities Validation Payment Accrual Budgets Market Procurement Contracts Reports Settings

Welcome anthony.dupreez@biden...
Logout

Reports

- Usage And Spend
- Greenhouse Gas Emissions
- Load Factor
- Interval Usage Profile
- Demand Profile
- Maximum Non Coincident Demand
- Price Benchmark
- Area Benchmark
- Portfolio Reviews
- Commodity Comparison
- Savings Opportunity (New)
- Gas - Usage vs ACQ

Usage And Spend (AU Electricity)

Use the filters to analyse facilities using different parameters and export data

Electricity | Australia

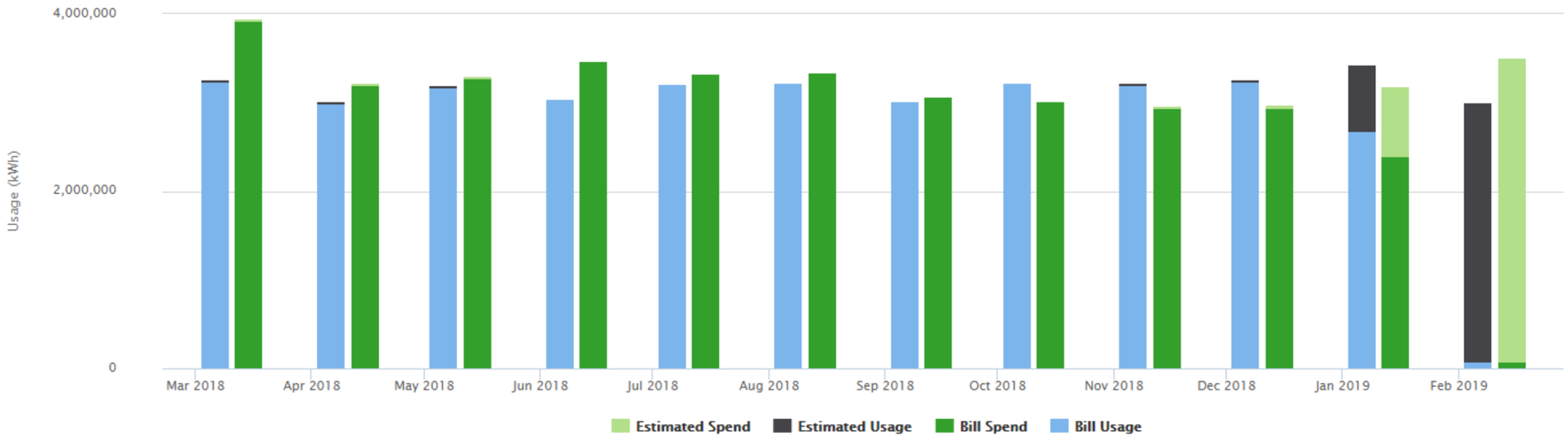
Search by facility name, nmi, meter Id, or address

Filter by: Tags | States | Suppliers/Utilities | Apply

Add Annotation

Date range: Mar 2018 – Feb 2019 Filter

Export



Download

65	38,039,567 kWh	$ 7,853,782
# Facilities	Total Usage	Total Spend

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Dashboard | Facilities | Validation | Payment | Accrual | Budgets | Market | Procurement | Contracts | Reports | Settings

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- Savings Opportunity (New)
- Gas - Usage vs ACQ

Greenhouse Gas Emission (AU Electricity)

Use the filters to analyse facilities using different parameters and export data

Electricity | Australia

× ABC Eyre Peninsular and West Coast SA - Civic Centre, 60 Tasman Terrace, Port Lincoln, SA 5606, Australia - AU - Electricity - NMI: 2001424761 - Cost Code:175006

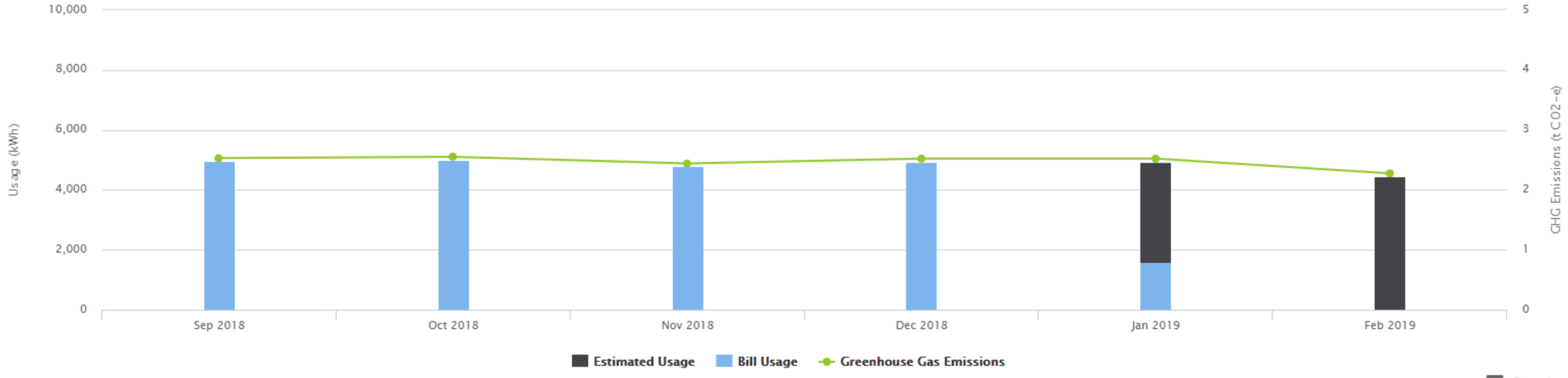
Search by facility name, nmi, meter Id, or address

Filter by | Tags | States | Suppliers/Utilities | Apply

Greenhouse Gas Emission Summary

Date range Sep 2018 Feb 2019 Filter

Export



Download

1	29,088 kWh	14.83 t CO_2-e
# Facilities	Total Usage	Total Emissions

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Load Factor (AU Electricity)

Use the filters to analyse facilities using different parameters and export data

Electricity | Australia

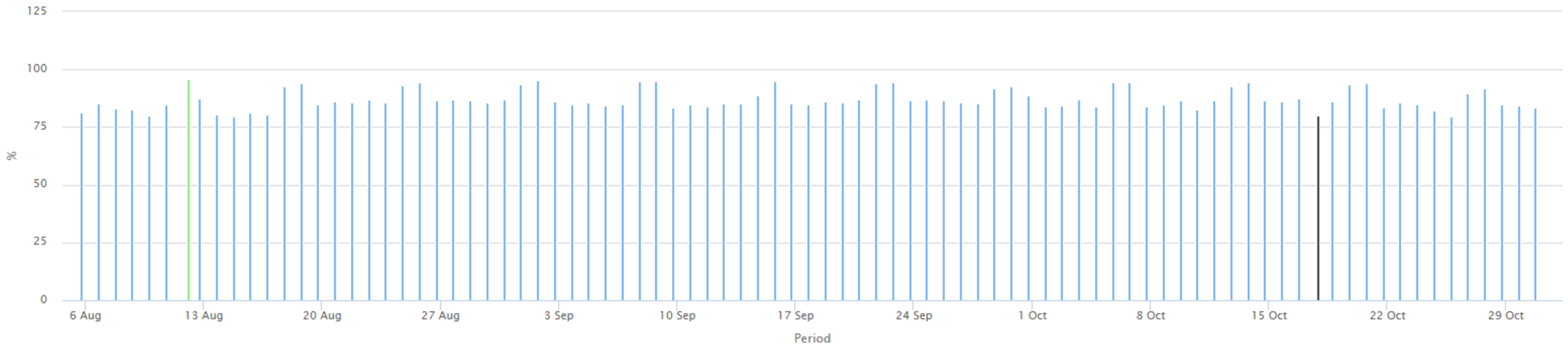
× Building A - 700 Harris St, Ultimo, NSW 2007, Australia - AU - Electricity - NMI: 4103548831 - Cost Code:172001 Search by facility name, nmi, meter Id, or address

Filter by: Tags | States | Suppliers/Utilities | Apply

Date range 06 Aug 2018 31 Jan 2019 Filter

Export

Load Factor



Load Factor | Period with highest demand | Period with highest load factor | Period with highest demand AND load factor

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Interval Usage Profile (AU Electricity)

Use the filters to analyse facilities using different parameters and export data

Electricity | Australia

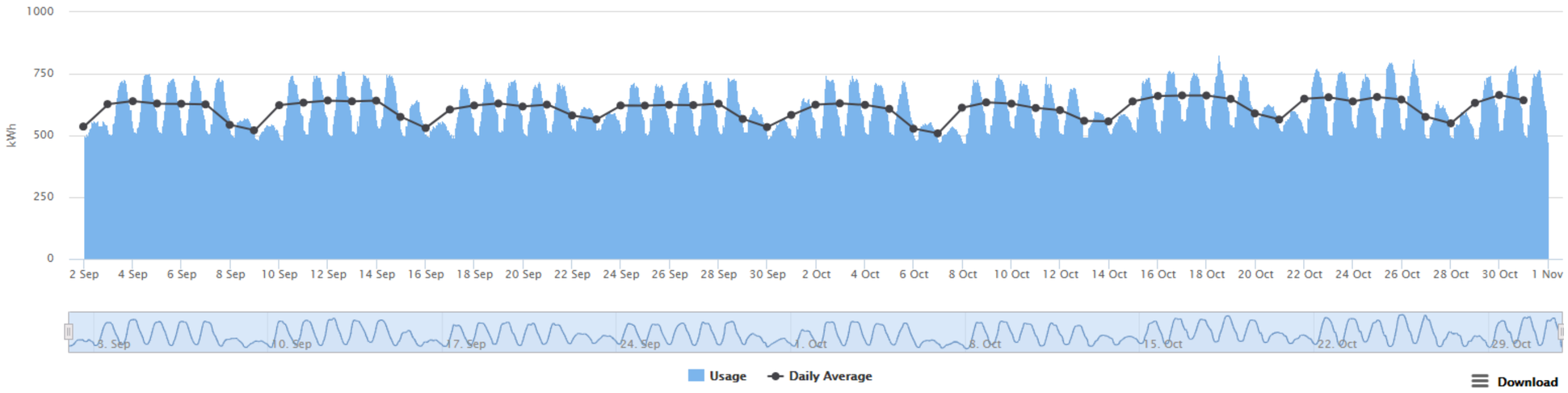
Building A - 700 Harris St, Ultimo, NSW 2007, Australia - AU - Electricity - NMI: 4103548831 - Cost Code:172001 | Search by facility name, nmi, meter Id, or address

Filter by | Tags | States | Suppliers/Utilities | Apply

Interval Usage Profile

Date range 02 Sep 2018 31 Oct 2018 Filter

Export



Download

Interval Usage Profile -Retailer Format CSV Export

NMI (use ; or , as separator):

Start Date: 02 Sep 2018

End Date: 31 Oct 2018

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- **Demand Profile**
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Demand Profile (AU Electricity)

Use the filters to analyse facilities using different parameters and export data

Electricity | Australia

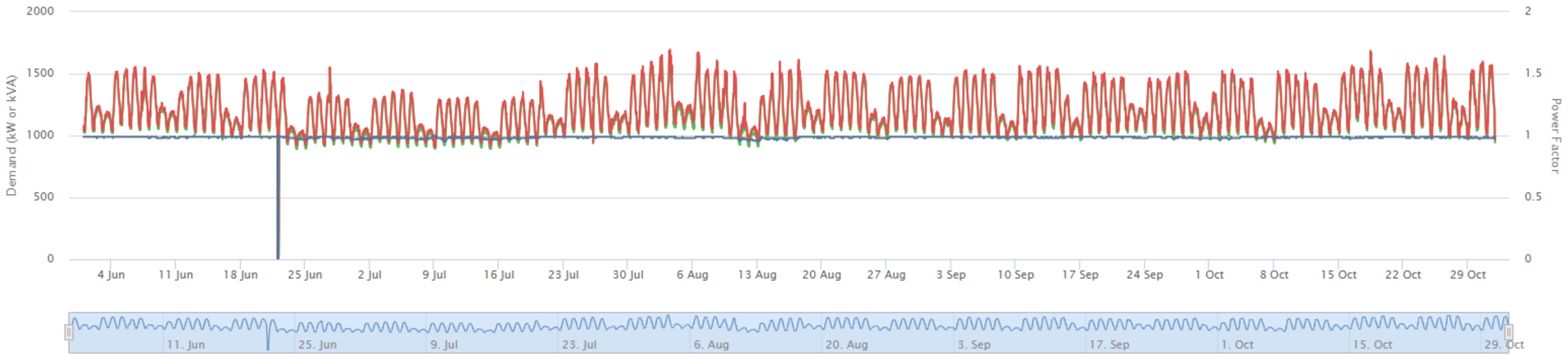
× Building A - 700 Harris St, Ultimo, NSW 2007, Australia - AU - Electricity - NMI: 4103548831 - Cost Code:172001 | Search by facility name, nmi, meter Id, or address

Filter by | Tags | States | Suppliers/Utilities | Apply

Demand Profile

Date range 01 Jun 2018 31 Jan 2019 Filter

Export



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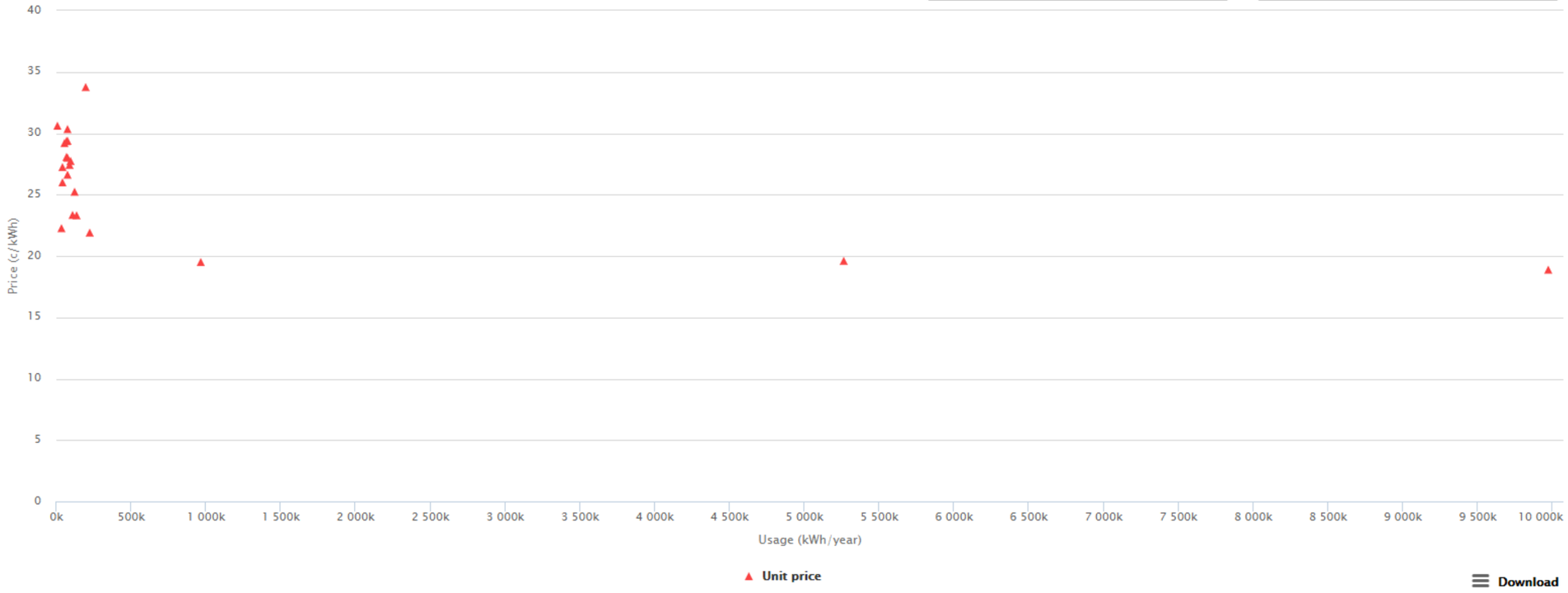
Electricity Price Benchmark

NSW (AU)

Australia



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- Commodity Comparison
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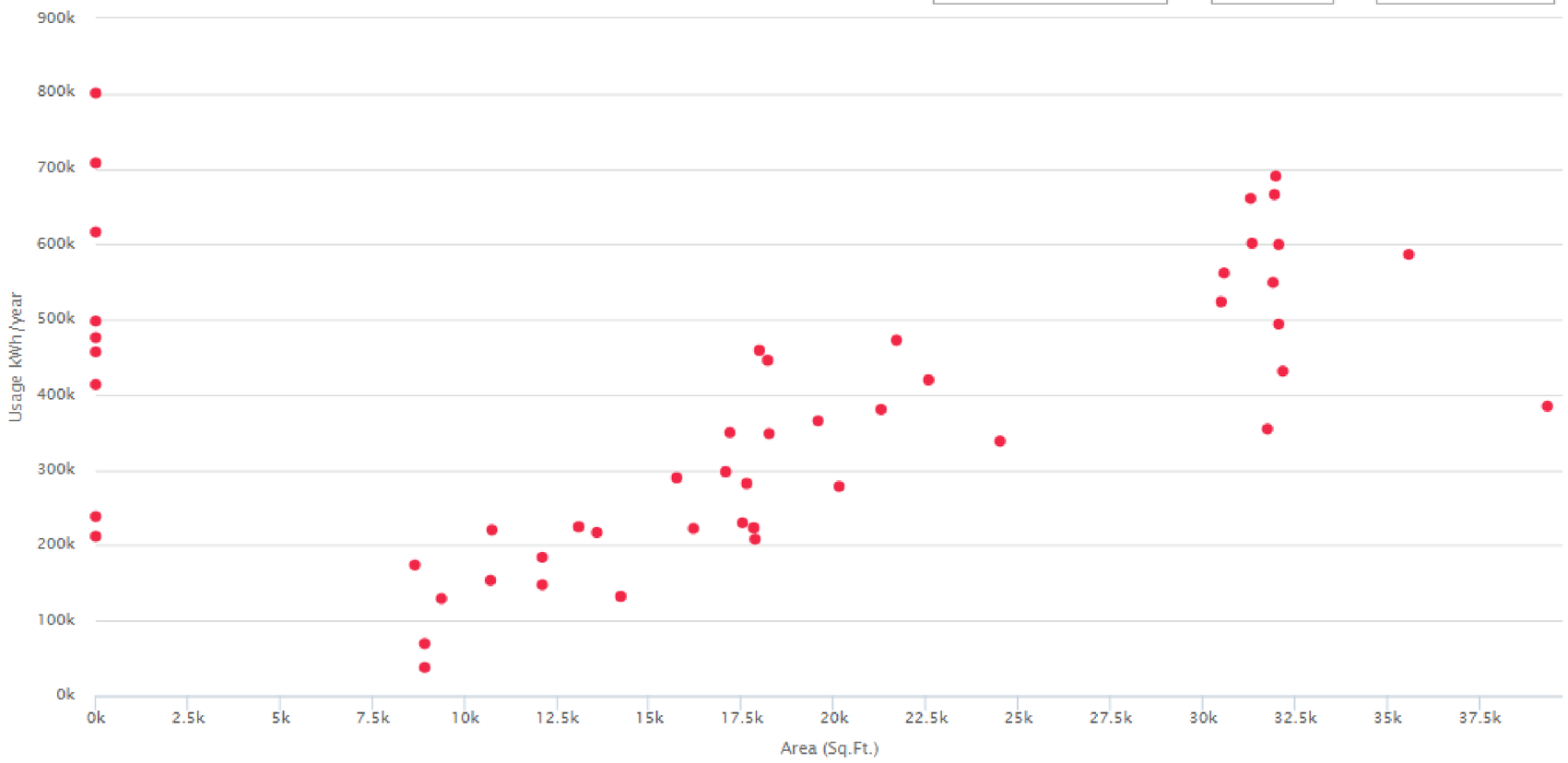
Area Benchmark

Benchmark Type: Total Usage

State / Region: FL (US)

Country: United States



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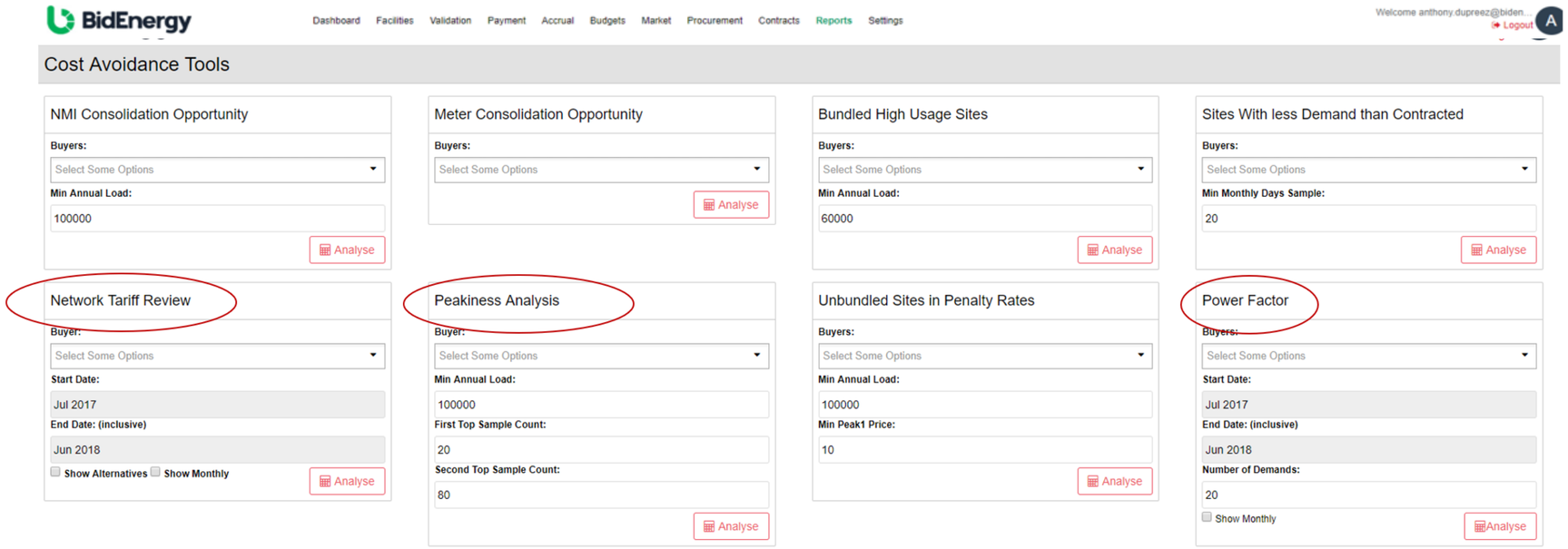
BidEnergy

Portfolio Analytics

Robot workers continuously check the portfolio for opportunities, including:

- Finding cheaper Network tariffs
- Finding cheaper pricing models
- Demand/capacity reset opportunities
- Power factor correction opportunities
- Peak smoothing opportunities
- TOU shifting opportunities
- Usage reduction – benchmarking and behaviour
- Usage reduction - efficiency projects
- Missed early pay discounts and eliminate late fees
- ….plus adding new opportunities e.g. battery storage to reduce peak usage

Screenshot: Cost & Usage Avoidance Tools



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Commodity Comparison

Asphalt ⇄ Electricity | View Comparison | Apply

Use the filters to analyse facilities using different parameters and export data

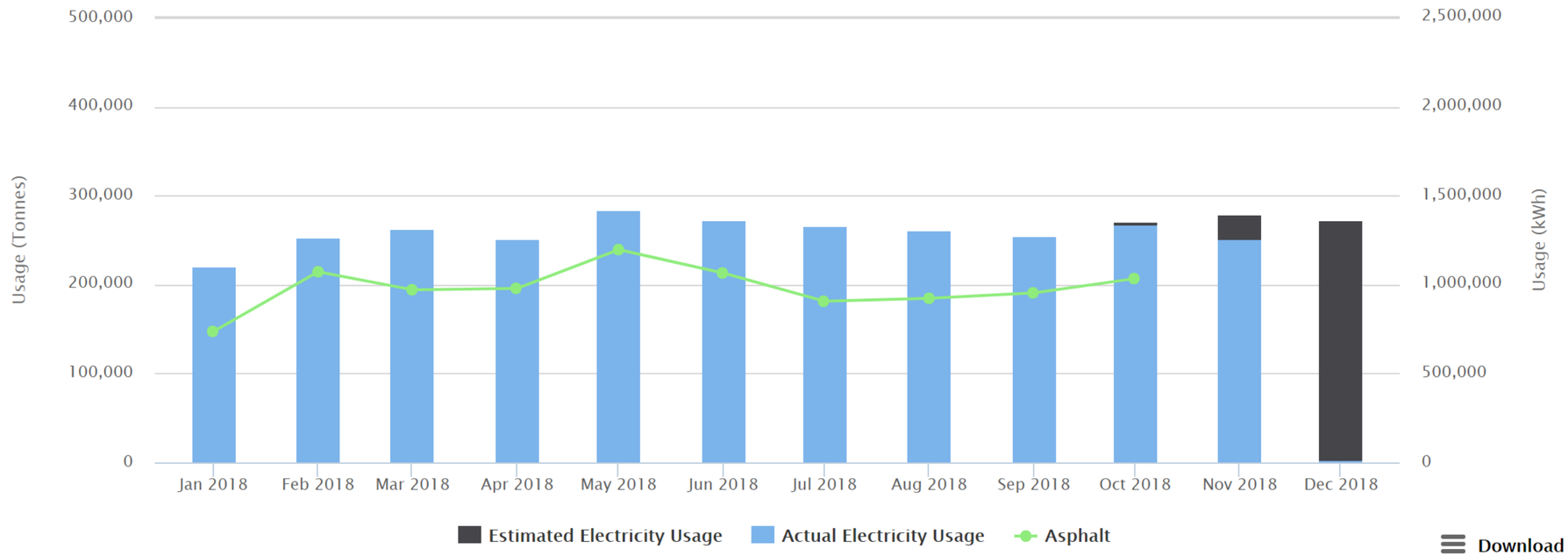
Search by facility name, nmi, meter Id, or address

Filter by | Select Tags | Select States | Select Suppliers | Apply

Date range Jan 2018 Dec 2018 Filter

Export

Asphalt (Tonnes) vs Electricity (kWh)



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- Savings Opportunity (New)
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Savings Opportunity Report (AU Electricity)

Electricity | Australia

Filter by: Please Select Category | Please Select Description | Please Select Status

Captured At Date range 01 Aug 2018 – 15 Feb 2019 Apply

Export

Facility	Created By	Category	Description	Retailer	Status	Details	
ABC Adelaide 85 North East Rd Collinswood, SA 5081 AU *Electricity* NMI: **SAAAAAA144** Cost Code: 175001	sabyasachi.mukherjee@bidenergy.com	Cost Avoidance	Demand Reset Review		SavingsRealised	Captured At Estimated Potential Saving Actual Saving	21 Jan 2019 AUD 10,000.00 AUD 10,000.00
Workshops 2 Lanceley Place Artarmon, NSW 2064 AU *Electricity* NMI: **NCCCNREN90** Cost Code: 172025	sabyasachi.mukherjee@bidenergy.com	Cost Avoidance	Network Tariff Review		RetailerRequested	Captured At Estimated Potential Saving Actual Saving	14 Sep 2018 AUD 3,000.00 AUD 0.00
ABC Eyre Peninsular and West Coast SA Civic Centre, 60 Tasman Terrace Port Lincoln, SA 5606 AU *Electricity* NMI: **2001424761** Cost Code: 175006	sabyasachi.mukherjee@bidenergy.com	Cost Avoidance	Network Tariff Review		RetailerRequested	Captured At Estimated Potential Saving Actual Saving	14 Sep 2018 AUD 4,000.00 AUD 0.00
ABC New England North West Parry Shire Building, 470 Peel Street Tamworth, NSW 2340 AU *Electricity* NMI: **4407319605** Cost Code: 172007	sabyasachi.mukherjee@bidenergy.com	Cost Avoidance	Network Tariff Review		SavingsRealised	Captured At Estimated Potential Saving Actual Saving	14 Sep 2018 AUD 1,200.00 AUD 1,200.00

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Settings

- Users
- User Role Manager
- Demand Alert
- Reports & Alerts
- Bill Validation Settings

Reports Setup

Reports | Alerts

Please enable the reports and assign users who should receive them weekly or monthly

Report Type	Enable / Disable	Add mail recipients	
Monthly Emissions Report (15th of every Month for the previous calendar month)	On	johnston.les@abc.net.au	Save
Monthly Usage & Spend Report (15th of every Month for the previous calendar month)	On	johnston.les@abc.net.au	Save
Weekly Bill Exceptions Report (Every Wednesday)	Off	Select Emails	Save
Monthly Report (First of every month)	Off	Select Emails	Save
Monthly Aged Accrual Report (28th of every Month)	On	johnston.les@abc.net.au	Save
Monthly Current Forecast Report (28th of every Month)	Off	Select Emails	Save

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BidEnergy

Specific Questions asked of BidEnergy

Savings to annual fees, including through manual handling by council (i.e. sacrificing some automation)

The BidEnergy solution is an end to end solution where there is no manual entry of data from Electricity, Gas and Water accounts. Manual Entry of Scope 3 Emissions Data would reduce subscription impact. Scope 3 Emissions entry can be automated over time.

Suitable for NGERS and NCOS reporting

In addition to immediately available reports, BidEnergy maintains and stores all relevant emissions factors and environmental reporting standards. By engaging our patented Robotic Process Automation solution to capture all of the usage and spend data directly from the document of record (the bill/invoice), we are able to deliver the highest level; of data integrity and reporting audit assurance to our clients.

How do you handle fleet and waste data from Council's (i.e. non-utility data but still resource data that we need for emissions reporting?)

Waste and fleet data as well as other emissions sources such as Fugitive Emissions, Paper, Business Travel and Asphalt will be included as Non-commodity on the platform in addition to electricity, gas and water.

Specific Questions asked of BidEnergy

What is the potential for additional data to be included in future (e.g. contractors, projects)?

Owing to our agile development framework there is scope to integrate our platform vis API into any number of other data management services and platforms where appropriate.

What are the implications if a shared platform is entered but then members pull out in future?

There are very little implications with respect to one member pulling out in future. Owing to our RPA (Robotic Dividend) our price differential between 100 -500 accounts is quite small per unit. There may be a slight increase in the remaining members subscription but this would be evaluated at the time.

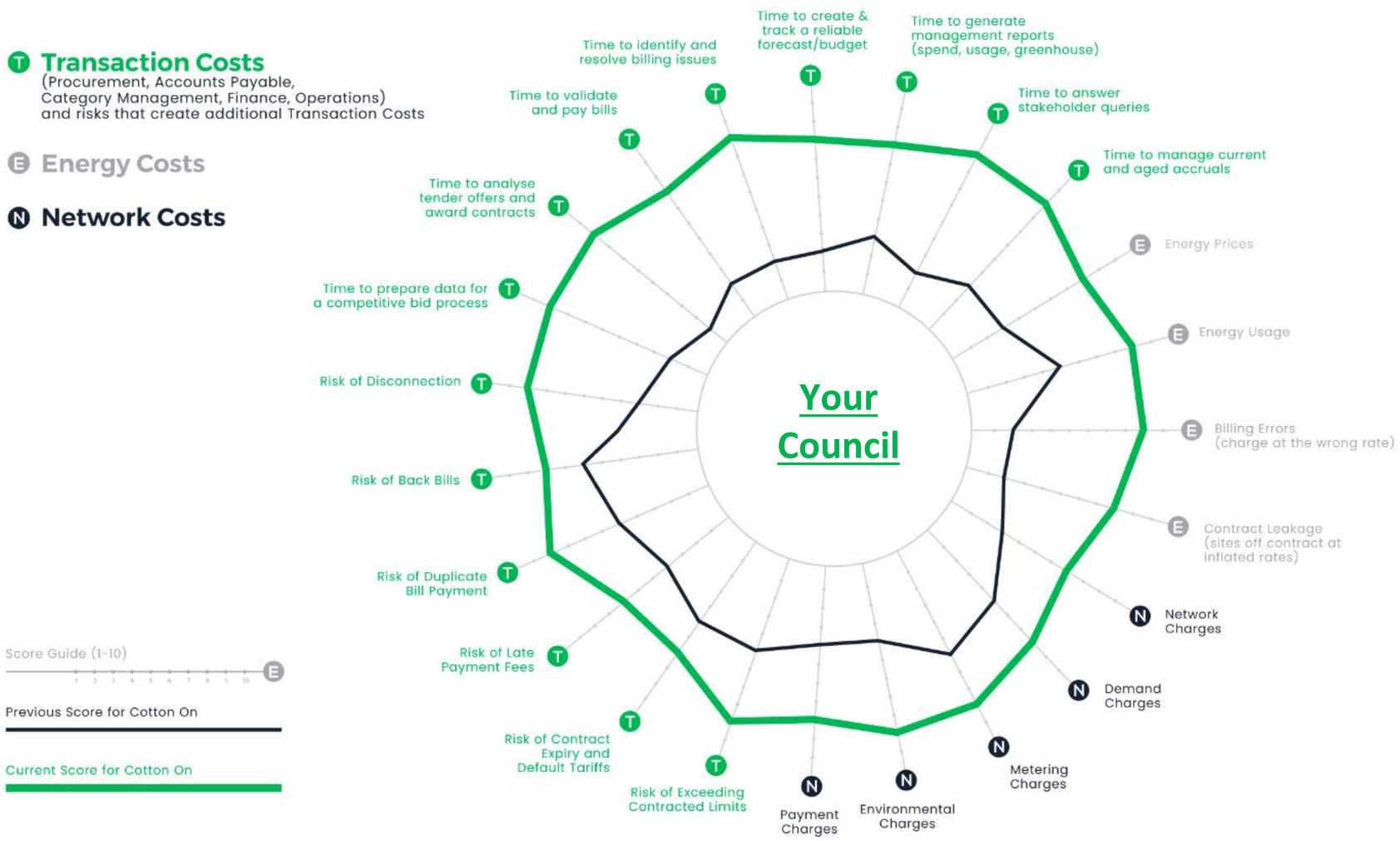
Please discuss options for privacy between councils; is it possible to achieve privacy on a shared platform?

The platform is not limited by numbers of users. Each council would be set up as an individual entity on the platform so complete privacy would be achieved for all council members.

Councils advise that if indicative costing has not yet been provided, the effort should be made to do so prior to presenting.

Pricing for each council would be under $1,500 per month or $18,000 per annum on a month to month agreement for the scope presented of 422 accounts.

BidEnergy gets multi-site portfolios to a perfect “Ten”



BidEnergy

Appendix D: Trellis Proposal

Sustainability Faster.

Resource & Carbon Accounting System –

Shires of Strathbogie, Murrindindi, Towong and Benalla

Date: 08/05/2019 I **Ref:** Trellis_NdevrVICregional T2019-03

Sustainability Faster.

08 May, 2019

Juliana Bedggood
Associate
Ndevr Environmental

Via email: juliana.bedggood@ndevr.com.au

Dear Juliana,

I am pleased to present further information including our schedule and fees for Strathbogie, Murrindindi, Towong and Benalla Councils utilisation of Trellis.

In our relatively short existence, we are delivering Trellis to many councils across Australia, including the integration of historical data sets from existing data bases and systems, suppliers and other systems such as Planet Footprint and Envizi.

The following pages of this document outline our unique capability, experience, schedule and fees, which along with our intimate understanding of Local Government and sectoral approaches, makes us the ideal partner for Strathbogie, Murrindindi, Towong and Benalla Councils.

In brief, we offer:

- An innovative, software platform, Trellis, which utilises machine learning and AI to process and interpret complex mixed format data, whilst enabling customised structures and reporting;
- A proven track record of managing complex utility data for a range of organisations including local and state governments, tertiary education, banking, airports, aged and community care organisations and commercial property managers;
- An intimate understanding of Local Government in general structure, data, personnel and needs; and
- A customer success driven team.

We are excited by the opportunity to partner with Strathbogie, Murrindindi, Towong and Benalla Councils to drive transparency, information insights and process efficiency across multiple business areas.

Please don't hesitate to contact me via matt@yourtrellis.com or 0433 4499 15 if you have any questions or require additional information.

Kind Regards

Matthew Shorten
CEO & Co-Founder, Trellis Technologies Pty Ltd

Contents

Intellectual Property Rights in relation to this request for quote / response to tender:
This document has been provided to Ndevr Environmental for the purposes of evaluating an offer from Trellis Technologies Pty Ltd in response to a request for proposal for (Strathbogie, Murrindindi, Towong and Benalla Councils). Much of the information in the document is of a proprietary nature and importantly provides insights into the Intellectual Property embodied within the Trellis software system. Such IP is an asset of Trellis Technologies Pty Ltd and must remain Commercial In Confidence.

Trellis Technologies Pty Ltd asserts its IP Rights in this information and prohibits the sharing of this document or any information contained within the document with any third party or parties who are not directly involved in the assessment of the request for quote and/or in the provision of appropriate advice to support assessment of our offer. This specifically includes a prohibition of the sharing of our ideas and IP with any other 3rd party service provider with whom Ndevr and Strathbogie, Murrindindi, Towong and Benalla Councils may choose to engage.

To avoid doubt our IP Rights means our rights in any patent, trade mark, copyright, moral right, right in a design, know-how, confidential information and all or any other intellectual or industrial property rights existing anywhere in the world, whether-or-not registered.

1.0 Background

The purpose of this document is to set out our response to request for information and pricing from Ndevr Environmental for four regional Victorian Councils being Strathbogie, Murrindindi, Towong and Benalla Councils utilisation of Trellis.

2.0 About us

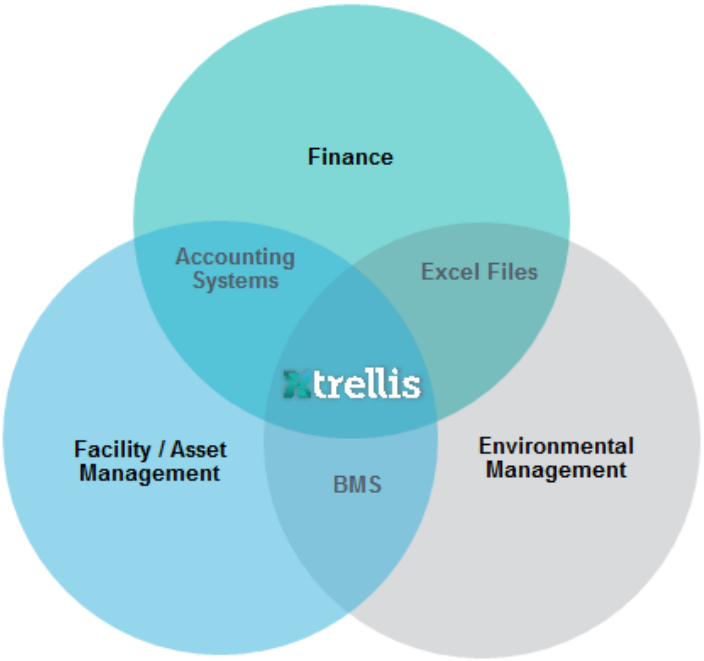
Trellis Technologies Pty Ltd (formerly Balance Carbon Pty Ltd) launched in 2018, following the prior launch of Trellis software-as-a-service (SaaS) in 2016.

Trellis SaaS is a positive disruptor in the resource and carbon accounting system arena, with our differentiator being Trellis's machine learning and AI capability, which delivers in next to real time, full visibility on impact and spend from transaction records (invoices). The Trellis approach inextricably links resource usage, GHG emissions (tCO_2-e), costs ($) with invoices (where possible) as a single source of truth, which in turn delivers trust amongst stakeholders, steers effort and supports process efficiency and enquiry across multiple business areas to support, guide and ultimately speed up the sustainability journey.

Since 2008, the multi-disciplinary team behind Trellis Technologies Pty Ltd has included Scientists, Software Engineers, Mechanical & Electrical Engineers and Greenhouse & Energy Auditors registered with the Clean Energy Regulator (CER). Our work with many organisations on many projects over many years has provided an intimate understanding of some of the key challenges and solutions, which underpin the corporate sustainability journey and its these that continue to guide the Trellis vision.

As of today, Trellis SaaS via its unique machine learning and AI data extraction and reporting has assisted many organisations with streamlining, automation and cost savings having processed, interpreted and reported over $1 billion in transactions related to more than 4.5 Mt/CO2-e (Scope 1, 2 and 3 emissions) across Local and State Governments, Universities, Aged and Community Care, Airports, Banks, Property Management and many others.

Figure 1: Simplified Trellis schematic, positioning Trellis as the core analytics tool across multiple business areas.



Our structure

We operate under an integrated Agile Development framework and we use customer and market research to drive our innovation and feature development priorities in Trellis. With this in mind, the Strathbogie, Murrindindi, Towong and Benalla councils will play a pivotal and instrumental role in the future direction and development priorities of Trellis.

The Trellis Technologies organisation structure is provided in ***Figure Two*** below. Our focus on technology, systems, scalability and efficiency enables us to process and manage a significantly large volume of data and achieve customer success, whilst keeping costs to a minimum.

Figure 2: Trellis Technologies Leadership Group / Structure

Chief Executive Officer

Mr Matthew Shorten

- Vision, Mission, Purpose.
- Product Management
- Market & Customer research
- Competitor research
- Customer liaison
- Strategic community management

Chief Technology Officer (CTO)

Professor Anthony Cheshire

- Technology research
- Technology strategy
- Process mapping
- Developer
- User experience mapping
- Machine learning/AI
- Data mining
- Key note speaking
- Thought leadership

Lead Programmer

Mr Joe Walker

- Developer
- User story acceptance and testing
- Helpdesk & Support
- Technology and customer research
- Training
- Security & Standards

Solutions Specialist

Dr Grant Westphalen

- Customer Success
- Emissions Factor research & maintenance
- User experience mapping
- User story evaluation
- On-boarding
- Systems management

Corporate Manager

Ms Olga Iouchina

- Finance
- Systems admin & mgmt.
- Customer liaison
- Helpdesk
- Financial reporting
- R&D
- Budgeting & Forecasting

Our systems & procedures

We utilise a series of embedded systems across our customer experience journey from awareness, through to proposal, acceptance, on-boarding, training, liaison and on-going data integration and reporting.

We utilise a combination of written procedures and web-based systems such as Asana and Trello to establish projects, tasks, responsibility and due dates.

We actively monitor data gaps, data processing times and project progress at weekly ‘Value delivery’ meetings. We review market and customer feedback along with user stories and re-prioritisation of the Trellis development roadmap at weekly ‘Value Creation’ meetings.

Quality Assurance

Inherent controls in the pdf reader include:

- Checking a bill has not being issued for the same account previously (except where the bill has being subsequently revised and reissued)
- Checking consumption x unit rates are equal to the total amount billed.
- Checking that the sum of all individual bills (that is each set of unique charges, for a set date, per meter) is equal to the sum of the invoice (with relevant adjustments)

Each file is inspected in a quality control procedure following the bill reading step. This is then uploaded to an administration area in Trellis where an additional set of quality assurance procedures are performed, these include:

- Checking assignation to the correct meter
- Checking assignation of the correct emissions factors
- Checking all charges and consumption correctly represented
- Checking reversals correctly applied for subsequent issued bills

Should any potential billing discrepancies be identified, we will discuss approaches with you to resolve the issues flagged. Trellis Technologies approaches quality control of uploaded billing data through a systematic set of tasks, documented through our internal processes.

We have data processing targets which we measure and internally report on within Trellis Technologies, as follows. The targets are:

- <5 Business Days to process, quality assure and load standard invoices from known suppliers into Trellis
- 5-10 Business Days to process invoices from new suppliers, our invoices that have changed format, charge types or present unexpected adjustments.

3.0 Understanding you needs

As the most publicly engaged branch of government, Local Government need to supply a diverse range of community services and related facilities/infrastructure. Accurate and consistent data acquisition, storage and reporting of resource and emissions data across this spectrum is of growing critical importance.

As such, Ndevr Environmental is acting on behalf of a group (x4) councils representing a collective population of approximately 43,853 people (https://www.abs.gov.au/) to partner with a resources and carbon management platform to enable more informed decision-making in relation to greenhouse gas emissions abatement and better cost control.

Specific needs of council have been identified as being able to robustly track abatement project performance, having confidence in data and inclusions, being able to identify cost saving opportunities and sharing and comparing information amongst participating councils through a common platform.

Specific outcomes from this project:

- The reduction of carbon emissions from council operations;
- Enabling, facilitating and supporting Council actions to reduce emissions and costs from all sources of greenhouse gases (GHG) that originate within the defined Council's scope
- Efficient and accurate management and processing of utility billing
- Enable, facilitate and support carbon reduction plans that originate within the defined Council's scope.
- Achieve carbon neutrality, as desired.

4.0 The case for Trellis SaaS

To date over $1 billion of transactions across a growing list of over 80 electricity, gas, fuel, waste, water, travel, labour, business travel, maintenance and other providers/suppliers has been processed and reported in Trellis, with our key differentiators in the current market including (but not limited to):

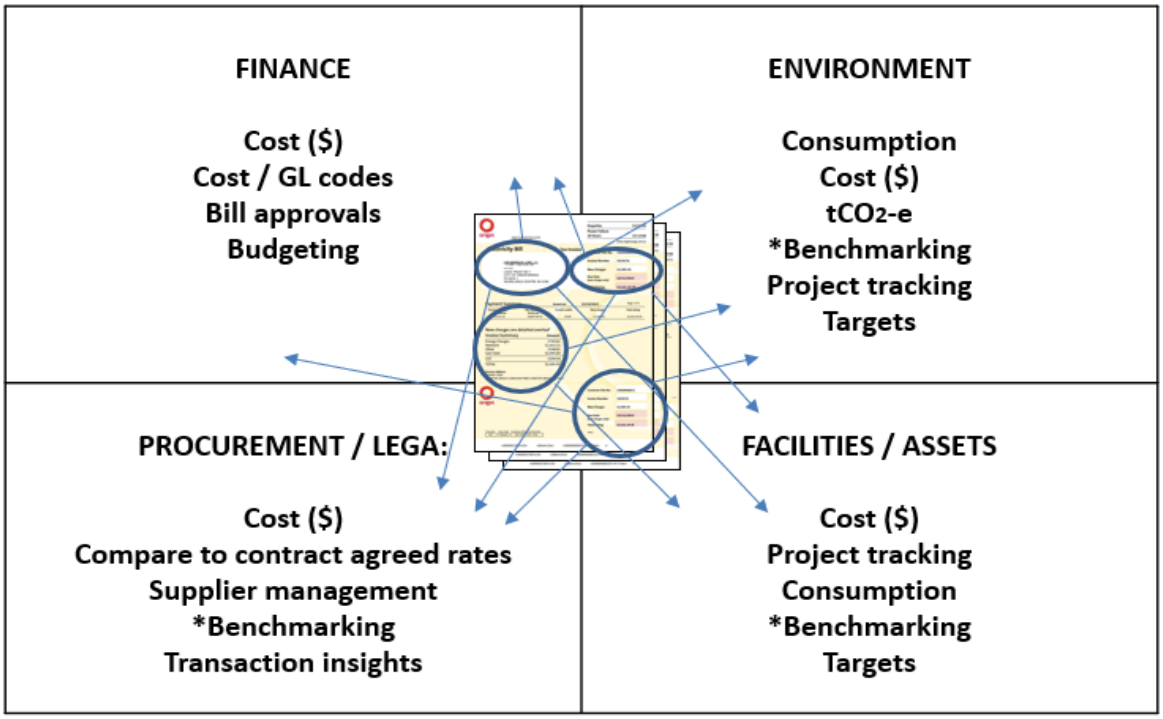
- Trellis (including all data processing), is developed and delivered from Australia (no offshore data processing or programming) to the highest security standards.
- Direct line item data extraction from invoices (not just electricity and gas) occurs under an automated workflow and proprietary machine learning and AI extraction method from any electronic PDF invoice type.
- A live reporting target of <5 business days from receipt of invoices (and other data), which is met 96% of time, with the majority occurring during the same day.
- A streamlined method of Trellis receiving and integrating invoices at the same time they are issued to councils for payment
- All original invoice documents are stored in Trellis and easily accessible. For consolidated accounts we link the exact bill relevant to the facility/asset/meter within the consolidated account.
- A core focus on driving internal collaboration across environment, facility/asset management, procurement and finance teams around a common trusted data set. A fundamental need in the foundation of any sustainability journey.
- Process outputs, which assist accounts payable teams in the process and approval if invoicing.

- We are fiercely independent from any related suppliers/retailers including meter data agents, renewable energy providers, energy auditors, utility retailers and other metering products.
- We have a deep understanding of the councils and have continually demonstrated our commitment to customer service and continual evolution to expand value delivery.
- Our easy 5 step on-boarding ensures all additional participating councils can be setup in Trellis with all historical data very efficiently as required.

Our innovative and unparalleled approach to being able to automatically extract and report line item detail from PDF invoices underpins Trellis's core capability, ensuring users have a 'single source of truth' and to utilise this to drive transparency, collaboration and trust amongst internal and external cross divisional groups and stakeholders, critical to the sustainability journey. See ***Figure Three*** below.

It also enables a simple and effective data integration method, which is direct interception of invoices via email at the same time invoices are issued to councils for payment. See ***Figure Four***.

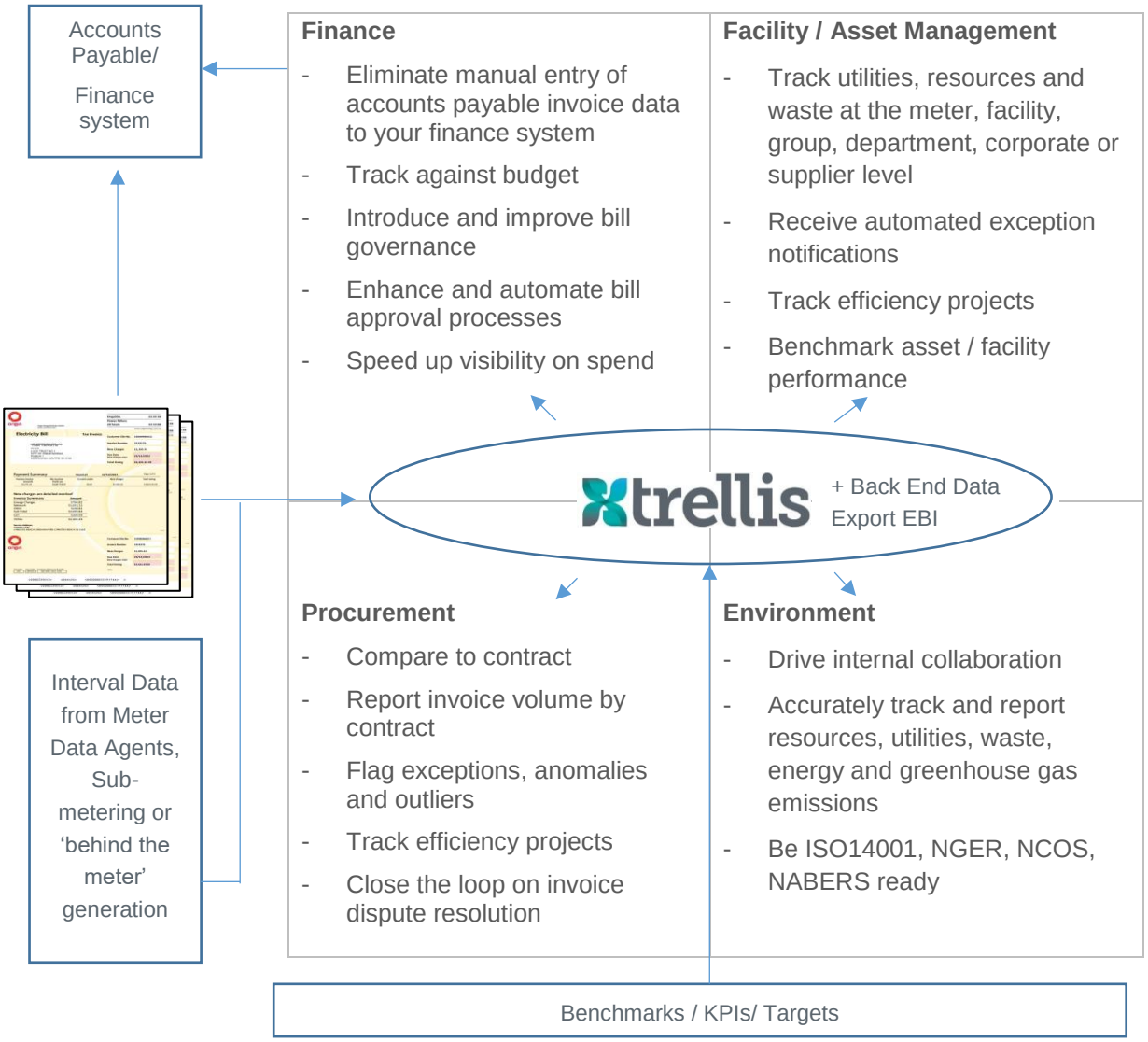
Figure 3: Invoices provide a rich stream of information across many business areas, which can be unlocked with Trellis.



Our product vision is to deliver 'real-time business' in terms of immediate invoice processing and reporting across all invoice types, providing 'full visibility of impact and spend' has quickly attracted customers from other prominent carbon / energy systems in the market.

Figure Four provides a simplified schematic of the data flow and expanding cross divisional benefits from utilising Trellis.

Figure 4: Trellis integration and business area benefits schematic



Where invoicing isn't suitable, Trellis also enables import or export from any .csv data file. Any report construct established can be exported either manually or pre-programmed periodically.

All data records or adjustments are supported by a fully documented audit trail and data completeness report. All original bills can be accessed via clickable links.

All inflows and outflows of data occur via email or direct deposit into a selected folder and can be received or pointed in any simultaneous directions. ***Sections 8*** and ***9*** outline more detail on Trellis functionality.

5.0 Our experience

To date Trellis has captured and reported over $1b in transactions and 4.5MtCO_2-e from over 80 electricity, gas, fuel, waste, refrigerant gases, corporate travel, bitumen, asphalt and other goods/service providers nationally. Activity associated with providing community infrastructure and services (Local Government) supporting over 9% of Australia's population and 10% of tertiary education student numbers are captured and reported in Trellis.

Trellis customers are at the forefront of sustainability in their fields. Some recent customer success stories include Brisbane Airport Corporation who were the 2018 recipient of the international 'Airports Going Green Awards' and Beyond Bank's recent BCorp certification and reporting, the only Australian bank to have achieved this thus far.

DSquared Consulting Pty Ltd recently (Jan 19) achieved carbon neutral certification under the National Carbon Offset Standard (NCOS) and Australia's first two Universities (Charles Sturt University, NSW) and second (University of Tasmania, TAS) also achieved NCOS certification with Trellis.

Organisations certified under NCOS are subject to rigorous assurance audits by 3rd party auditors. Auditors review Scope 1, 2 and 3 inclusions/exclusions, justifications, materiality, data sources, source records, systems and applied emissions factors. Auditors regularly access Trellis for respective customer needs and we are happy to facilitate this, whether it be for NCOS, NGER Act audits, NABERS, B-Corp or other audits such as energy efficiency audits and the like.

Experience in working alongside these organisations and many more on their journeys, to be part of their achievements and continual learnings be it sustainability focussed, account management or cost control, puts our experience along our deep technical software development knowledge and skill at the forefront of positive disruption with Trellis SaaS.

Below is a brief case study from Georges River Council, NSW.

Case Study: Georges River Council & Trellis

Georges River Council, located in Southern Sydney, has a population of approximately 156,000 residents and encompasses a total land area of approximately 38 square kilometers.

Georges River Council has used the data management system Trellis since 2015. Bridget Corcoran, Senior Sustainability Officer, has been using the software for the past year and believes the system is providing significant value to Council. Bridget provided the following comments on the system:

"The Trellis utilities management system provides Council with the ability to track water, gas and electricity use across all of its sites including civic buildings, parks and ovals. The system automatically reads Council's utilities bills as they become available, and records all necessary information from the bills. Trellis recently established an email forwarding system alongside our Accounts team, to minimise the time lag in receiving bills. The system allows multiple users, with the ability to make users administrative or 'view only'.

The system interface is attractive and simple to use, making the process of obtaining summary data (such as consumption over a particular period) pain-free. The system allows generation of custom reports such as year-on year comparisons, periodic reports and cost summaries. The data collected within Trellis is extremely versatile, meaning you can create reports specific to your needs. The consumption reports have been particularly useful for the Sustainability team, especially in reviewing those Council sites with high energy consumption and comparing them year on year. Once a report is created, it can easily be exported to Excel format for further analysis.

Trellis also has a useful dashboard which highlights bill exceptions on a map allowing for easy identification of bill issues or leaks. This has immense value to Building and Asset Management teams.

Recently the Sustainability team has presented the value of Trellis to other departments across Council, and it is hoped that the system can be adopted as a single 'source of truth' for utilities consumption and costs. So far the other departments have been extremely receptive to the system, seeing its capabilities and the value it can deliver. The ability to add custom fields to each asset/facility entry will allow multiple stakeholders within Council to generate useful custom reports, for example, "cost of electricity for leased sites between July 2016 and June 2017.

The system also has the ability to track (behind-the-meter) 'feed in' from Council sites with solar PV, to allow on-site generated renewable electricity to be accurately accounted for and reported.

The customer service has been excellent. The Trellis team respond quickly to queries and is willing to spend time explaining concepts to those not completely familiar with the system. Trellis are very helpful in ensuring the system is kept up to date, that it reflects all existing sites, and that its functions serve Council's needs."

Having access to a good data management system has allowed Georges River Council to shift its focus from managing data to using this data to obtain strategic insights, to streamline reporting across multiple departments and to drive sustainability outcomes.

Our nominated referees are included in ***Table One*** below***. Table Two*** provides a sample list and description of current clients.

Table 1: Referees

Referee 1	Referee 2
Name: Ryan Halyburton **Title:** Green Buildings Program Officer **Organisation:** City of Onkaparinga **Email:** Ryan.Halyburton@onkaparinga.sa.gov.au **Phone:** (08) 8488 2014	**Name:** Ann Gibbons **Title:** Environment Sustainability Manager **Organisation:** City of Marion **Email:** ann.gibbons@marion.sa.gov.au **Phone:** (08) 8375 6857
Referee 3	**Referee 4**
Name: Daniela Ramirez **Title:** Senior Sustainability Officer **Organisation:** Georges River Council **Email:** dramirez@georgesriver.nsw.gov.au **Phone:** +61 293 306 171	**Name:** Wayne Shore **Title:** Services Engineer – Facility Management **Organisation:** University of South Austral **Email:** Wayne.Shore@unisa.edu.au **Phone:** 08 8302 2708

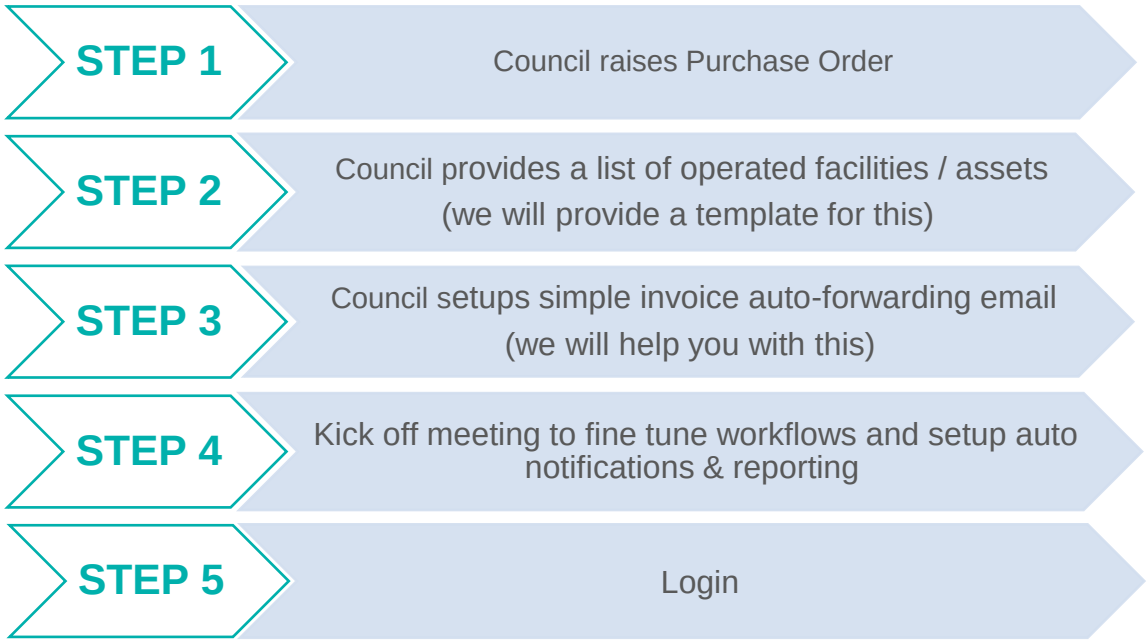
Table 2: Sample Trellis Customers

CLIENT	SERVICES	CLIENT	SERVICES
BRISBANE AIRPORT AUSTRALIA	**Brisbane Airport Corporation:** Trellis License and upload of utility data for all 150 meters inclusive of 35 electricity accounts and 140 water accounts. Includes integration of embedded network files, fuel, gas, waste and other purchased items. Reports generated for NGER, Airport Carbon Accreditation (ACA) and CSR.	THE UNIVERSITY of ADELAIDE	**The University of Adelaide, SA:** One of the Group of Eight Universities (G8), who utilise Trellis for electricity, fuel, gas, water and waste data integration across 130 facilities administered inclusive of 70 electricity accounts, and 85 water accounts.
Gawler	**Town of Gawler, SA:** Trellis license and upload of all utility and other activity data across 151 facilities/assets including electricity, gas, water and waste	University of the Sunshine Coast	**University of Sunshine Coast:** Trellis License and upload of utility data for various facilities across QLD including Scope 1, 2 and 3 emissions reporting.
Beyond Bank AUSTRALIA	**Beyond Bank Australia, National:** Trellis License and upload of utility data for 75 national facilities administered inclusive of electricity accounts and water accounts.	Knight Frank	**Knight Frank Australia:** Trellis License and intelligence roll out for Premium, A and B Class properties, as well as back end state-of market insights relevant to benchmarking utility usage, costs, emissions and asset classes
GEORGES RIVER COUNCIL	**Georges River Council, NSW:** Trellis License and upload of utility data for all 250 facilities administered inclusive of 120 electricity accounts, 120 water accounts and 20 gas accounts	Government of South Australia Department for Environment and Water	**SA Government, Department of Environment & Water:** Trellis License and data integration for Department of Environment and Water's operations in South Australia. Includes Scope 1, 2 and some Scope 3 emissions
Maribyrnong CITY COUNCIL	**Maribyrnong City Council, VIC:** Trellis License and upload of utility data for all 220 facilities administered inclusive of 80 electricity accounts, 330 water accounts, 10 gas accounts and 200 transport fuel accounts.	CITY OF ONKAPARINGA	**City of Onkaparinga, SA:** Trellis License and upload of utility data for all 218 facilities administered inclusive of 200 electricity accounts and 10 natural gas accounts.
CITY OF MARION	**City of Marion, SA:** Trellis license for integration and reporting of 126 facilities including electricity, gas , fuel, waste, water and other items. Tracking LED streetlighting projects for generation of ACCUs	City of Norwood Payneham & St Peters	**City of Norwood Payneham & St Peters, SA:** Trellis license for integration of all utility data
City of West Torrens Between the City and the Sea	**City of West Torrens, SA:** Trellis license for integration and reporting of 96 facilities including electricity, gas , fuel, waste, water and other items	ADELAIDE HILLS COUNCIL	**Adelaide Hills Council, SA:** Trellis license and data integration for electricity, gas, fuel, water and waste.

6.0 On-boarding with Trellis SaaS - Seamless integration and continuity

A straight forward and efficient five step on-boarding process is outlined in ***Figure Five*** below. Importantly we will integrate up to 12 months of data from invoice records and additional years of historical data from any pre-existing systems, as required.

Figure 5: 5 Step On-boarding Process



Appendix One provides a breakdown of the proposed project schedule and key deliverables in more detail. Importantly, from the commencement of our services (receipt of PO) we will work closely with the participating council(s) to ensure accurate alignment and configuration of the data capture and reporting aspects to be reflected in the Service Level Agreement (See ***Appendix Two***). The Service Level Agreement (SLA) links to Trellis and sets out the key data and structure attributes Trellis will reflect, as well as the levels of service and requirements for both parties for the contracted period.

We will maintain and review the forwarding email setup to continue to receive duplicate copies of electronic bills (and other files) at the same time these are issued to participating councils for payment. We will also maintain and establish access to various data portals as required (where invoicing not available) and establish linkages with additional data sources in the most efficient way for participating councils.

Regular liaison with the Trellis team will continue to ensure any evolving needs are understood and applied. We will also review needs/priorities of the participating councils and communicate developmental progress at scheduled meetings, maximising efficiency in working with participating councils.

7.0 Value added services

‘State of’ Reporting

In addition to the standard insights and reporting in Trellis, we propose to deliver an annual ‘State of’ report, which draws on the insights and data contained in Trellis across the participating councils.

The content and timing of the release of these reports will be fine-tuned with participating councils through group and individual engagement.

Our experience in delivering sectoral based reports and using consistent financial grade data (from invoicing) to underpin the reporting, will be invaluable for the participating councils in building trust and credibility in the sharing and utilisation of information to drive change and far reaching benefits.

The ‘State of’ Reporting, will aim to assist participating councils to:

- Identify appropriate benchmarks for standardising differences between participating councils
- Compare differences in emissions generation, energy usage and costs at the corporate level, facility / asset class / group and individual facility / asset / supplier levels
- Compare various emissions and energy management goals/ targets in context with related areas of investment
- Compare implemented project types, quantities and effectiveness

The ‘State of’ annual report will be an evolving document, driven by participating Councils. The annual report will be authored by Trellis Technologies Director and CTO, Professor Anthony Cheshire.

Streetlighting - Network vs Retailer

Trellis’s ability to extract data from any PDF electronic invoices means that we can efficiently extract and report information from any ancillary provider such as a network providers monthly streetlight tariff invoice. From these Trellis can track light type changes over time (See ***Figure Six***) and compare / link consumption estimates to invoices issued to councils by the retailers. ***Figure Seven*** demonstrates a common issue and cost saving opportunity for councils where street lighting light type changes reflected in network tariff invoices, aren’t promptly reflected in unmetered consumption estimates applied by retailer(s) invoicing and hence possible over charges.

Invoice / Supplier management

Trellis’s ability to extract data from any PDF electronic invoices means that we can efficiently extract and report information related to any account, supplier, period, number of invoices etc. This enables valuable insight into suppliers, detection of meters, which are newly opened, closed, being charged for connection only and other supplier and meter characteristics. Additionally, through our fast processing timeframes, we can streamline the bill approval process and largely automate. The approach to this varies between councils, typically not a ‘one size fits all’ and would be a key area of exploration with participating councils under this project.

Figure 6: Tracking Streetlighting Lamp type changes

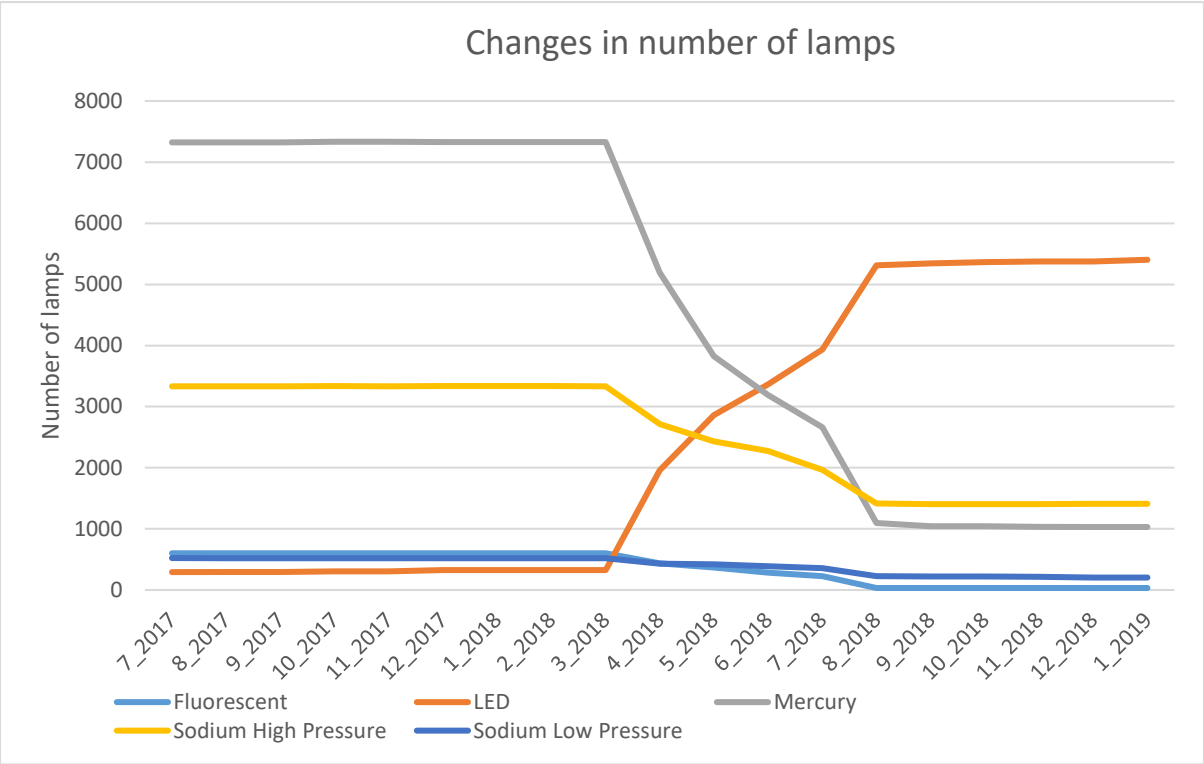
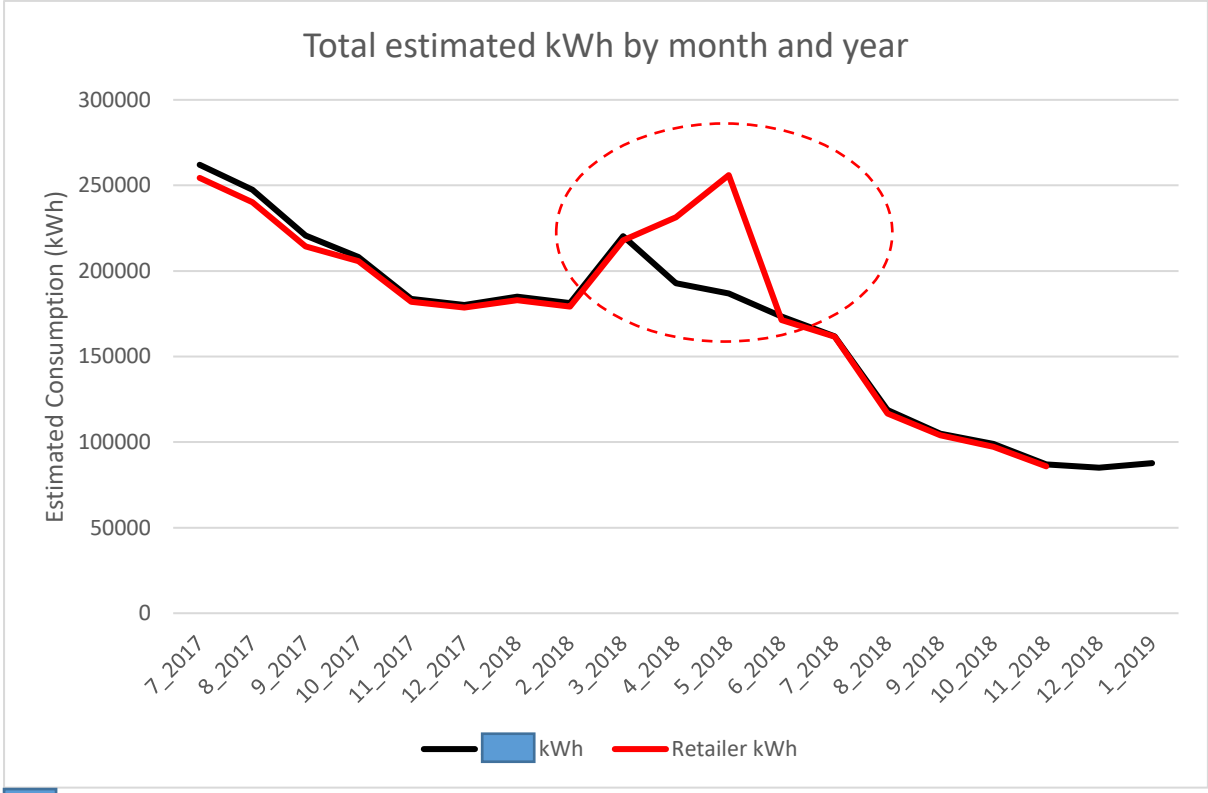


Figure 7: Highlighting a lag in reduced consumption from light type changes in retailer billing



= Network provider kWh

8.0 Trellis Overview

The following section provides a general overview of Trellis features.

User Access

There is no organisational limit to the number of users and Trellis systems have been developed to ensure performance isn't compromised with multiple user access at any one time. Trellis sets three possible levels of access being Viewer, User and Manager with each having varying access and edit allowances.

Automatic notifications of any report structure and invoice exceptions can also be established to avoid the need for users to login.

Setting Up

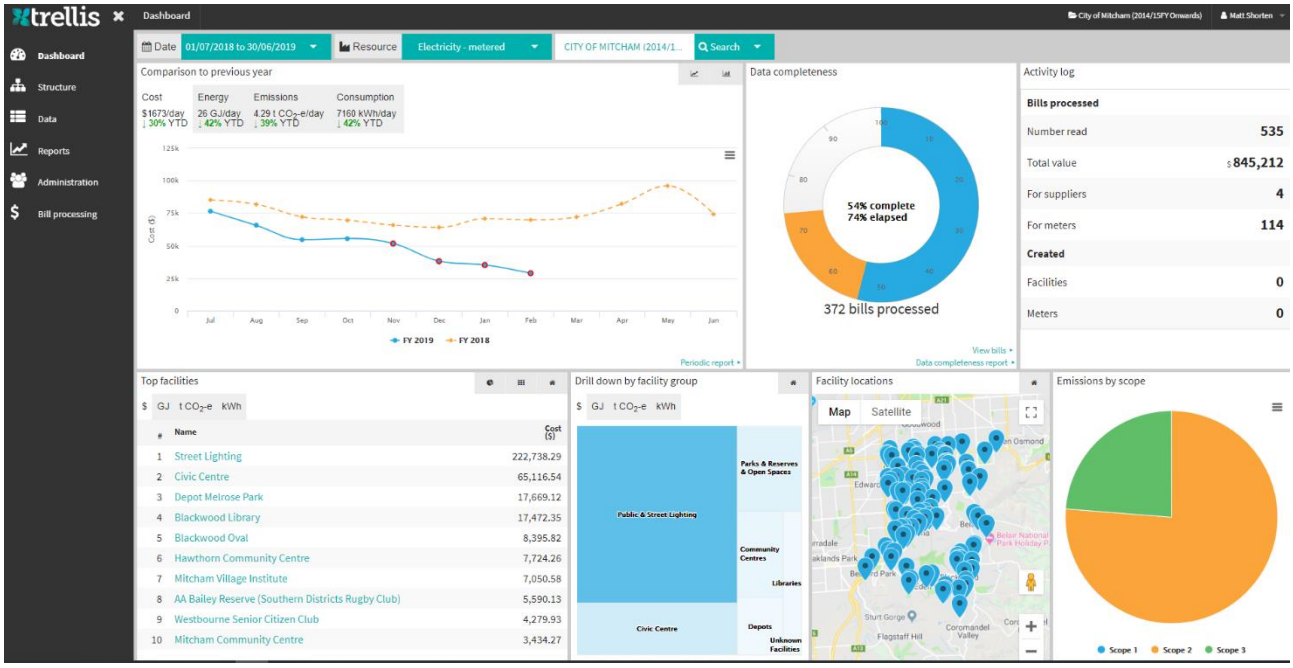
The setup process simply requires approval to continue with data processing for the next period. Once approved, setup configuration will be reviewed and updated (where required) with the Data Implementation Plan and then data and reporting will follow in an automated way.

Dashboard

The Dashboard in Trellis allows each user to quickly focus in on the issues/data they are seeking to address. All activities can be aggregated/filtered or disaggregated, as required by flexible time periods, asset/meter inclusions, business unit or group, emissions or resource types.

Various tools such as tree map widget provide a quick drill down into business units or facility groups. The 'Top facilities' lists the top 10 facilities by cost, consumption or emissions, the 'Activity log' widget highlights the number of data files processed and new records etc and data completeness donut shows completeness progress.

Figure 8: *Screenshot demonstrating dashboard summary.*



Reporting

Trellis reporting is set up with each type of report generating in its entirety on selecting the report. The “Customise” function allows the users to always customise the ‘Report By’, Dates and “Filters” for each report allowing the further refinement of the information presented in each report. In this way all reports are able to be directly tailored to the scope required (whole of organisation, business unit, supplier, meter, resource type etc). See ***Figure 9*** below.

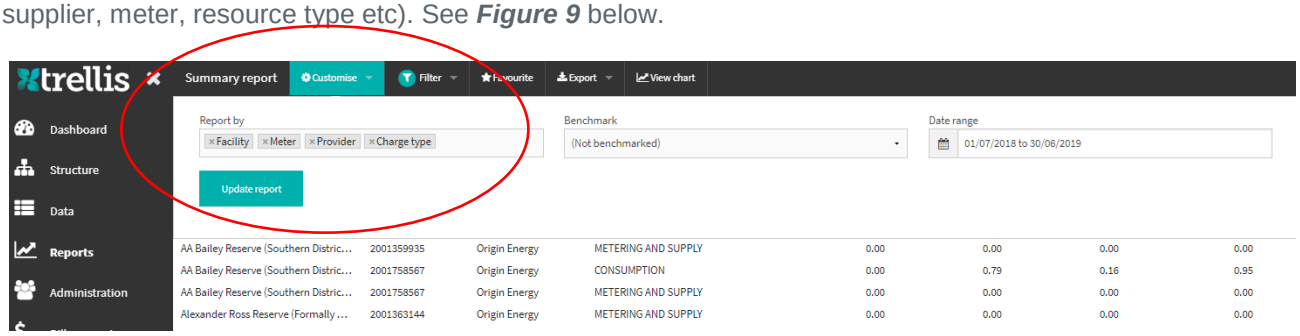


***Figure 9**: “Customise” flexible configuration*

Once a report is setup it can be saved as a ‘Favourite’, which ensures each time a user logs in, you can access this format without having to re-establish it manually. There is no limit on the number of ‘Favourite’ reports established.

The reports present initially as a table on the screen but are all able to be graphed by selecting the graphing tool in the menu bar. All graphs have customisable displays and can be downloaded or printed in the preferred file format of the user. All reports generated within Trellis (including ‘Favourites’) are able to be automatically emailed (pushed) to nominated personnel, as required. Data loaded in the system can be exported at all times to Excel.

Summary Report

Trellis provides a quick summary report which sets out the consumption, emissions, energy and cost between two user defined data ranges. Reporting can be prioritised and segmented by two sequentially applied variables as is preferred by the end user from the options inclusive of: Meter, Facility, Business Unit, Agency, Division, Factor, Resource Type, Provider and Charge Type. Over 100 report variations are possible via the ‘setup’ TAB in the summary report alone.

***Figure 10:** Screenshot demonstrating summary reporting of by a facilities as the primary variable, resource type as the secondary variable*

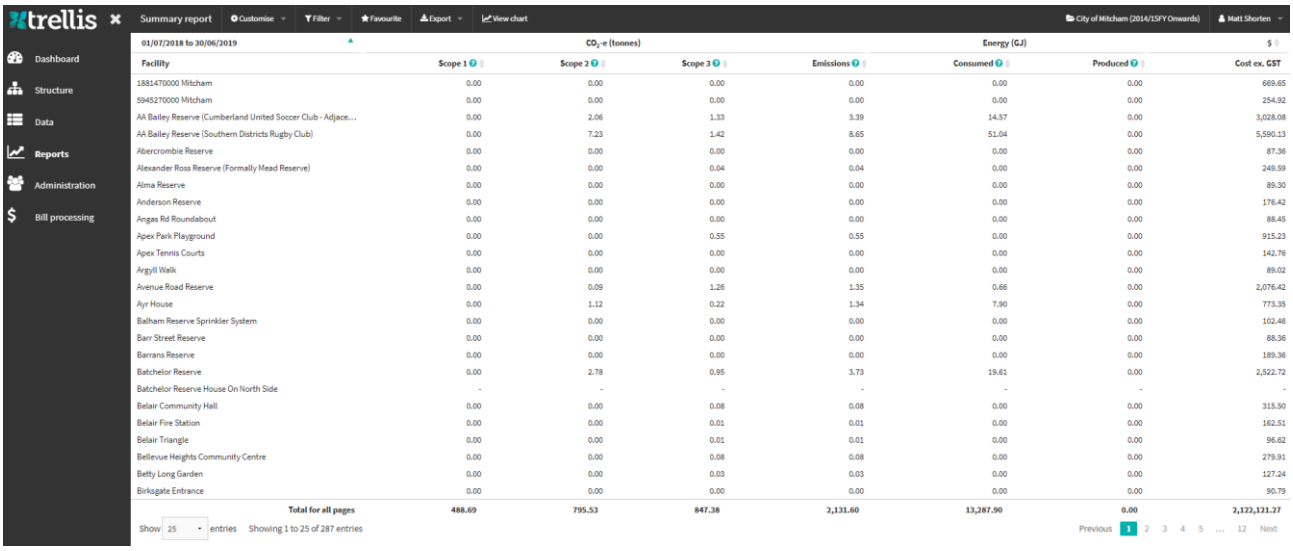
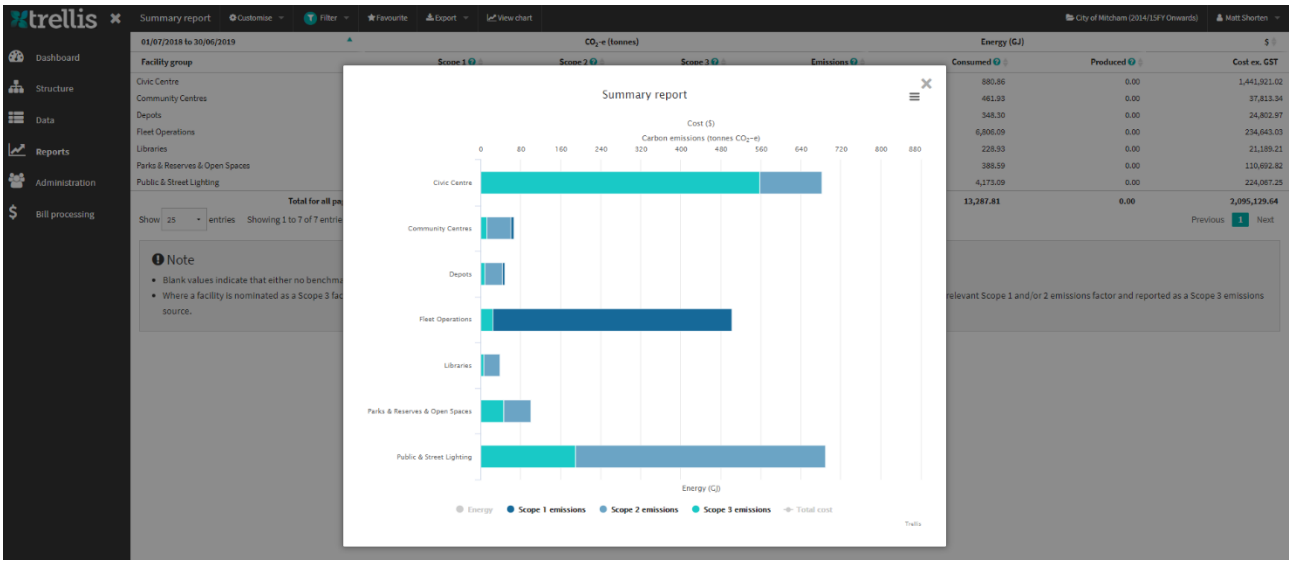


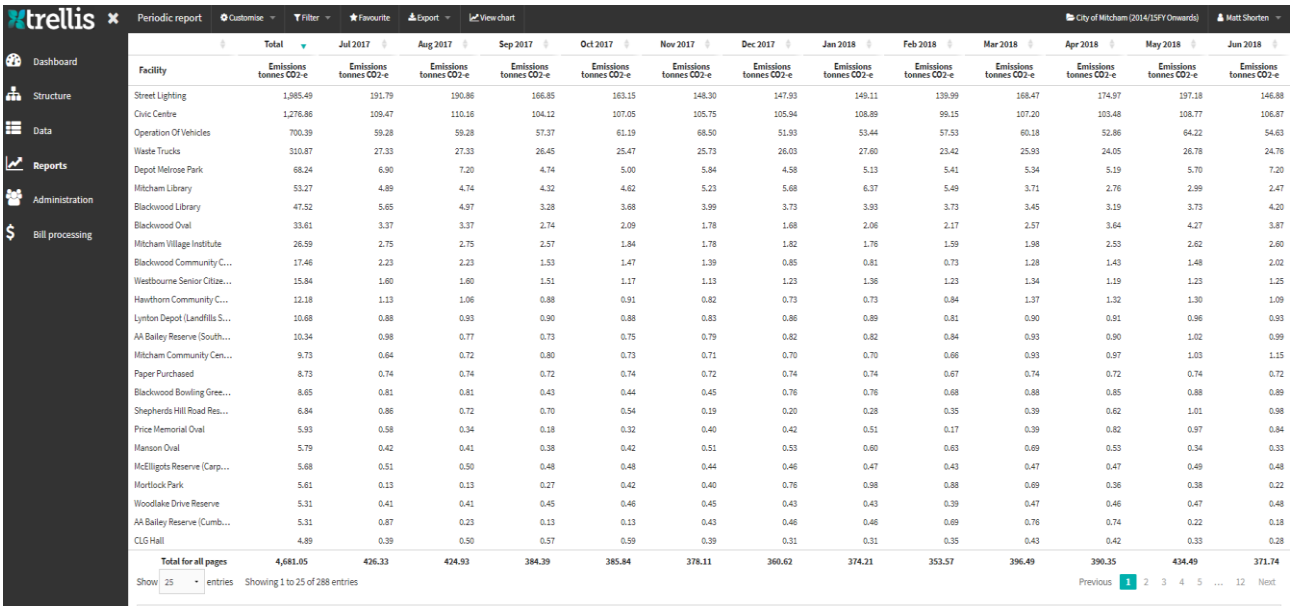
Figure 11: *Sceenshot demonstrating summary reporting graphing, selected facility groups for comparison*



Periodic Report

Periodic reporting provides the same set up and options for reporting as per the Summary report, however it generates periodic interim data to enable profile analysis for each data point. That is, for the period reports, once a start date is selected, the user then selects if they would like to view the data from that point onwards either weekly, monthly, quarterly or annually and this is provided in the report.

Figure 12: *Screenshot demonstrating periodic reporting, electricity consumption per facility, monthly.*



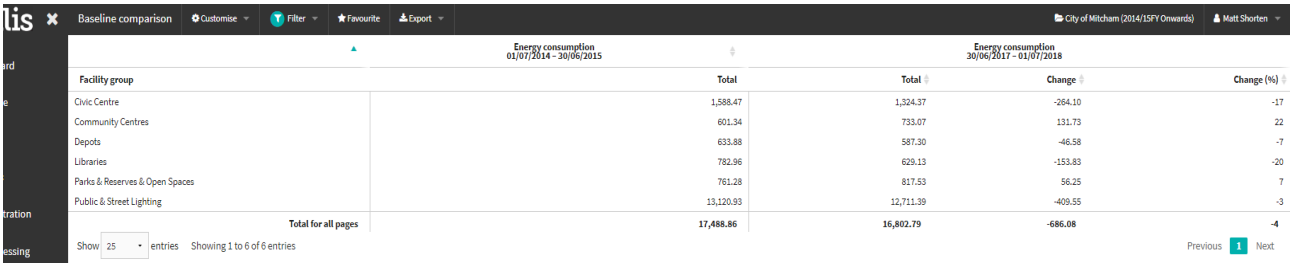
Facility	Total Emissions tonnes CO2-e	Jul 2017 Emissions tonnes CO2-e	Aug 2017 Emissions tonnes CO2-e	Sep 2017 Emissions tonnes CO2-e	Oct 2017 Emissions tonnes CO2-e	Nov 2017 Emissions tonnes CO2-e	Dec 2017 Emissions tonnes CO2-e	Jan 2018 Emissions tonnes CO2-e	Feb 2018 Emissions tonnes CO2-e	Mar 2018 Emissions tonnes CO2-e	Apr 2018 Emissions tonnes CO2-e	May 2018 Emissions tonnes CO2-e	Jun 2018 Emissions tonnes CO2-e
Street Lighting	1,985.49	191.79	190.86	166.85	163.15	148.30	147.93	149.11	139.99	168.47	174.97	197.18	146.88
Civic Centre	1,276.86	109.47	110.16	104.12	107.05	105.75	105.94	108.89	99.15	107.20	103.48	108.77	106.87
Operation Of Vehicles	700.39	59.28	59.28	57.37	61.19	68.50	51.93	53.44	57.53	60.18	52.86	64.22	54.63
Waste Trucks	310.87	27.33	27.33	26.45	25.47	25.73	26.03	27.60	23.42	25.93	24.05	26.78	24.76
Depot Melrose Park	68.24	6.90	7.20	4.74	5.00	5.84	4.58	5.13	5.41	5.34	5.19	5.70	7.20
Mitcham Library	53.27	4.89	4.74	4.32	4.62	5.23	5.68	6.37	5.49	3.71	2.76	2.99	2.47
Blackwood Library	47.52	5.65	4.97	3.28	3.68	3.99	3.73	3.93	3.73	3.45	3.19	3.73	4.20
Blackwood Oval	33.61	3.37	3.37	2.74	2.09	1.78	1.68	2.06	2.17	2.57	3.64	4.27	3.87
Mitcham Village Institute	26.59	2.75	2.75	2.57	1.84	1.78	1.82	1.76	1.59	1.98	2.53	2.62	2.60
Blackwood Community C...	17.46	2.23	2.23	1.53	1.47	1.39	0.85	0.81	0.73	1.28	1.43	1.48	2.02
Westbourne Senior Citize...	15.84	1.60	1.60	1.51	1.17	1.13	1.23	1.36	1.23	1.34	1.19	1.23	1.25
Hawthorn Community C...	12.18	1.13	1.06	0.88	0.91	0.82	0.73	0.73	0.84	1.37	1.32	1.30	1.09
Lynton Depot (Landfills S...	10.68	0.88	0.93	0.90	0.88	0.83	0.86	0.89	0.81	0.90	0.91	0.96	0.93
AA Bailey Reserve (South...	10.34	0.98	0.77	0.73	0.75	0.79	0.82	0.82	0.84	0.93	0.90	1.02	0.99
Mitcham Community Cen...	9.73	0.64	0.72	0.80	0.73	0.71	0.70	0.70	0.66	0.93	0.97	1.03	1.15
Paper Purchased	8.73	0.74	0.74	0.72	0.74	0.72	0.74	0.74	0.67	0.74	0.72	0.74	0.72
Blackwood Bowling Gree...	8.65	0.81	0.81	0.43	0.44	0.45	0.76	0.76	0.68	0.88	0.85	0.88	0.89
Shepherds Hill Road Res...	6.84	0.86	0.72	0.70	0.54	0.19	0.20	0.28	0.35	0.39	0.62	1.01	0.98
Price Memorial Oval	5.93	0.58	0.34	0.18	0.32	0.40	0.42	0.51	0.17	0.39	0.82	0.97	0.84
Manson Oval	5.79	0.42	0.41	0.38	0.42	0.51	0.53	0.60	0.63	0.69	0.53	0.34	0.33
McElligots Reserve (Carp...	5.68	0.51	0.50	0.48	0.48	0.44	0.46	0.47	0.43	0.47	0.47	0.49	0.48
Mortlock Park	5.61	0.13	0.13	0.27	0.42	0.40	0.76	0.98	0.88	0.69	0.36	0.38	0.22
Woodlake Drive Reserve	5.31	0.41	0.41	0.45	0.46	0.45	0.43	0.43	0.39	0.47	0.46	0.47	0.48
AA Bailey Reserve (Cumb...	5.31	0.87	0.23	0.13	0.13	0.43	0.46	0.46	0.69	0.76	0.74	0.22	0.18
CLG Hall	4.89	0.39	0.50	0.57	0.59	0.39	0.31	0.31	0.35	0.43	0.42	0.33	0.28
Total for all pages	**4,681.05**	**426.33**	**424.93**	**384.39**	**385.84**	**378.11**	**360.62**	**374.21**	**353.57**	**396.49**	**390.35**	**434.49**	**371.74**

Historical & Baseline Comparisons

Comparisons to the previous reporting period, nominated baselines periods or future targets is available within Trellis. As per the set up for all reporting, the user can determine the reporting period, the data that is compared and further refine this to specific items of interest.

Baseline comparison reports in tabular form include the absolute and percentage differences between the periods compared. This allows the user to determine if the year on year comparison is material or likely just normal fluctuation in the context of the resource use, facility and facility group.

Figure 13: *Screenshot demonstrating a FY15 to FY18 comparison of energy consumption (GJ)) including total change and % for select facility groups.*



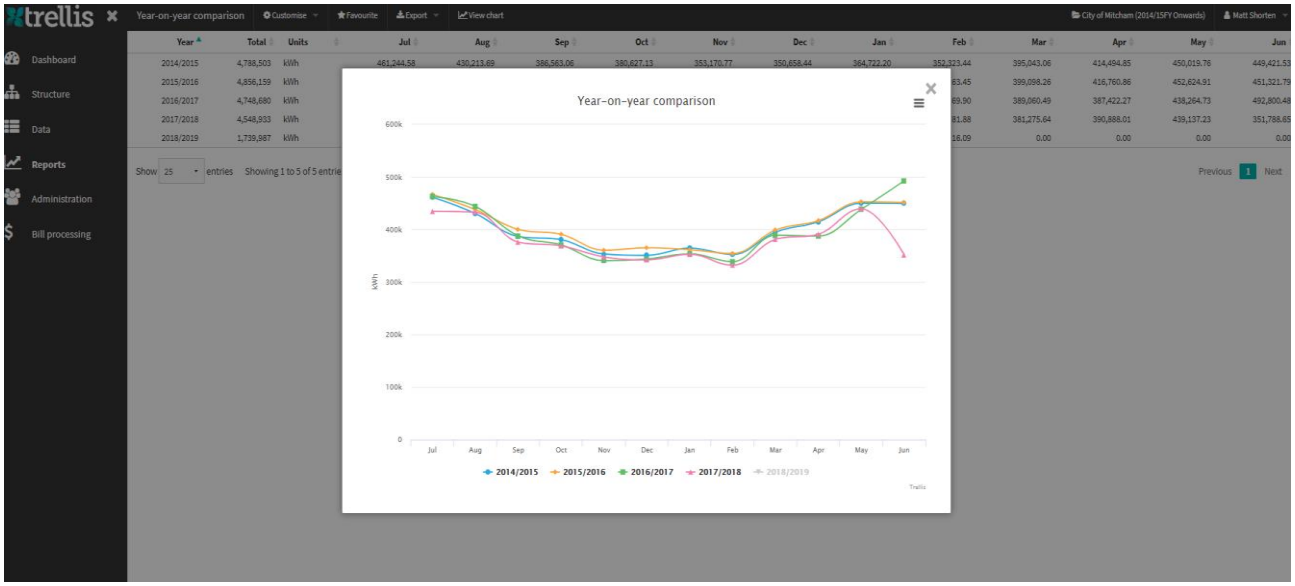
Baseline comparison | Customise | Filter | Favourite | Export | City of Mitcham (2014/15FY Onwards) | Matt Shorten

Facility group	Energy consumption 01/07/2014 – 30/06/2015 Total	Energy consumption 30/06/2017 – 01/07/2018 Total	Change	Change (%)
Civic Centre	1,588.47	1,324.37	-264.10	-17
Community Centres	601.34	733.07	131.73	22
Depots	633.88	587.30	-46.58	-7
Libraries	782.96	629.13	-153.83	-20
Parks & Reserves & Open Spaces	761.28	817.53	56.25	7
Public & Street Lighting	13,120.93	12,711.39	-409.55	-3
Total for all pages	**17,488.86**	**16,802.79**	**-686.08**	**-4**

Show 25 entries Showing 1 to 6 of 6 entries

Previous 1 Next

Figure 14*: Screenshot demonstrating year on year comparisons of kWh 14/15, 15/16, 16/17, 17/18.*



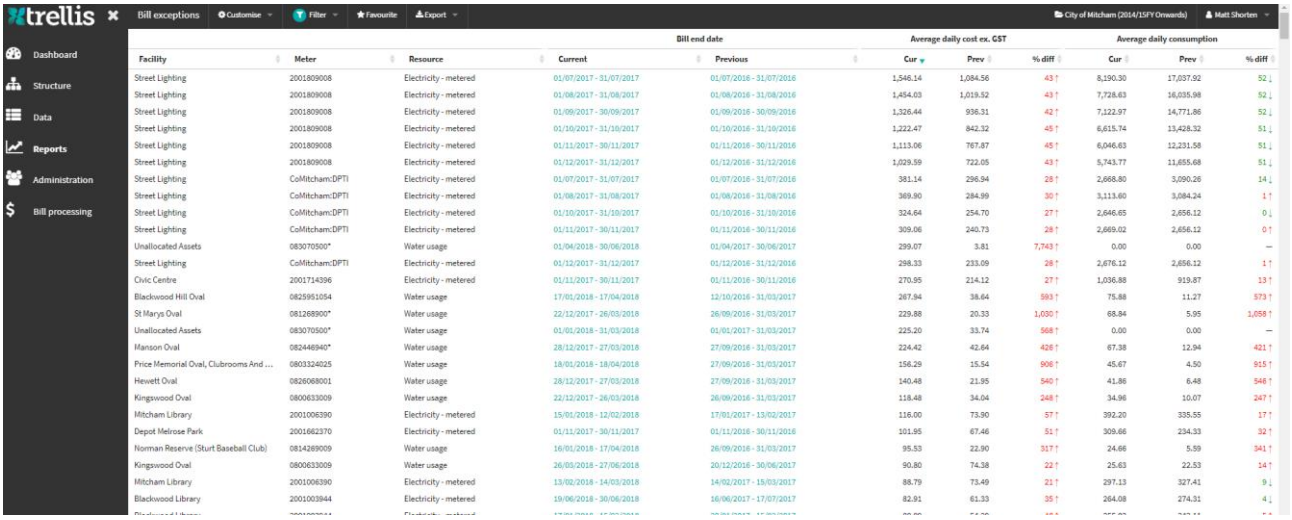
Exception Reporting

To provide a strong utility cost governance framework, Trellis has automated exception reporting functionality built in. A quick indication of the performance of a facility is the cost and consumption of the same facility for the same period in the prior year. This comparison provides for the seasonal consumption of utilities in terms of cost and consumption. The user defines the preferred threshold (set as a percentage) and the date range of interest and Trellis returns a report of all invoices within that period where the year on year consumption or cost exceed the user set threshold. The report also provides a copy of each of the invoices linked to the data entry for ease of access in investigating any changes.

This report is designed to allow quick analysis of potential cost and consumption issues across large portfolios of facilities with diverse utility usage, summarising the potential issues for the user in an easy to use reference report.

Users can be linked with specific facilities and exception reports automatically emailed to these users or responsible officers for the management and monitoring of sites.

Figure 15: *Screenshot demonstrating exception reporting, threshold set at ±20% difference in year on year cost and consumption. Original bill files can be launched by clicking on the Hypertext links in the report.*

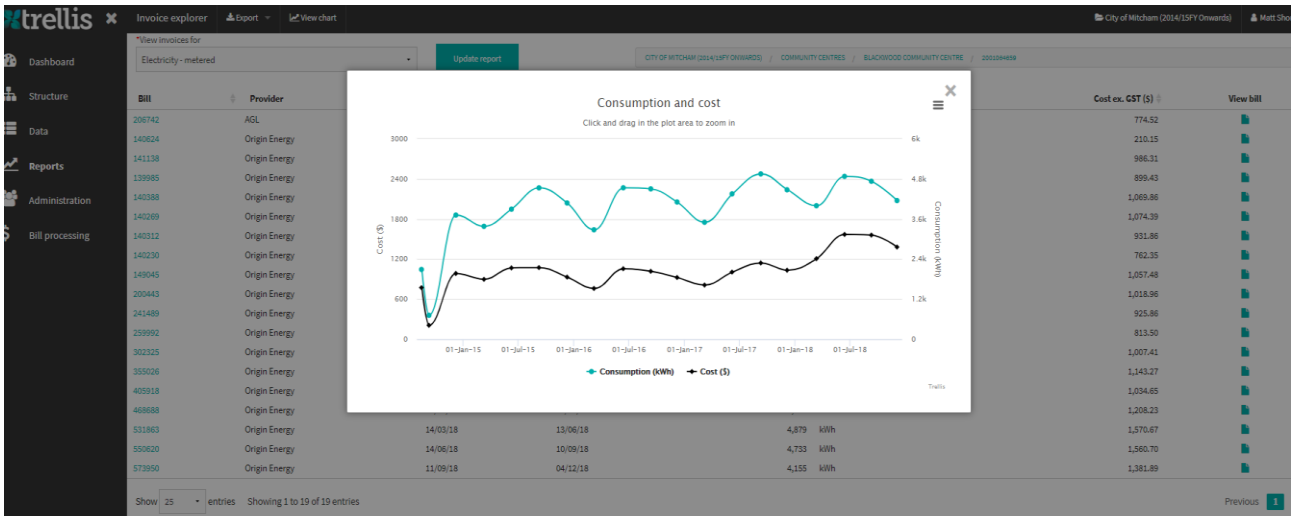


Facility	Meter	Resource	Current	Previous	Cur	Prev	% diff	Cur	Prev	% diff
Street Lighting	2001809008	Electricity - metered	01/07/2017 - 31/07/2017	01/07/2016 - 31/07/2016	1,546.14	1,084.56	43 ↑	8,190.30	17,037.92	52 ↓
Street Lighting	2001809008	Electricity - metered	01/08/2017 - 31/08/2017	01/08/2016 - 31/08/2016	1,454.03	1,019.52	43 ↑	7,728.63	16,035.98	52 ↓
Street Lighting	2001809008	Electricity - metered	01/09/2017 - 30/09/2017	01/09/2016 - 30/09/2016	1,326.44	936.31	42 ↑	7,122.97	14,771.86	52 ↓
Street Lighting	2001809008	Electricity - metered	01/10/2017 - 31/10/2017	01/10/2016 - 31/10/2016	1,222.47	842.32	45 ↑	6,615.74	13,428.32	51 ↓
Street Lighting	2001809008	Electricity - metered	01/11/2017 - 30/11/2017	01/11/2016 - 30/11/2016	1,113.06	767.87	45 ↑	6,046.63	12,231.58	51 ↓
Street Lighting	2001809008	Electricity - metered	01/12/2017 - 31/12/2017	01/12/2016 - 31/12/2016	1,029.59	722.05	43 ↑	5,743.77	11,655.68	51 ↓
Street Lighting	CoMitcham:DPTI	Electricity - metered	01/07/2017 - 31/07/2017	01/07/2016 - 31/07/2016	381.14	296.94	28 ↑	2,668.80	3,090.26	14 ↓
Street Lighting	CoMitcham:DPTI	Electricity - metered	01/08/2017 - 31/08/2017	01/08/2016 - 31/08/2016	369.90	284.99	30 ↑	3,113.60	3,084.24	1 ↑
Street Lighting	CoMitcham:DPTI	Electricity - metered	01/10/2017 - 31/10/2017	01/10/2016 - 31/10/2016	324.64	254.70	27 ↑	2,646.65	2,656.12	0 ↓
Street Lighting	CoMitcham:DPTI	Electricity - metered	01/11/2017 - 30/11/2017	01/11/2016 - 30/11/2016	309.06	240.73	28 ↑	2,669.02	2,656.12	0 ↑
Unallocated Assets	083070500*	Water usage	01/04/2018 - 30/06/2018	01/04/2017 - 30/06/2017	299.07	3.81	7,743 ↑	0.00	0.00	—
Street Lighting	CoMitcham:DPTI	Electricity - metered	01/12/2017 - 31/12/2017	01/12/2016 - 31/12/2016	298.33	233.09	28 ↑	2,676.12	2,656.12	1 ↑
Civic Centre	2001714396	Electricity - metered	01/11/2017 - 30/11/2017	01/11/2016 - 30/11/2016	270.95	214.12	27 ↑	1,036.88	919.87	13 ↑
Blackwood Hill Oval	0825951054	Water usage	17/01/2018 - 17/04/2018	12/10/2016 - 31/03/2017	267.94	38.64	593 ↑	75.88	11.27	573 ↑
St Marys Oval	081268900*	Water usage	22/12/2017 - 26/03/2018	26/09/2016 - 31/03/2017	229.88	20.33	1,030 ↑	68.84	5.95	1,058 ↑
Unallocated Assets	083070500*	Water usage	01/01/2018 - 31/03/2018	01/01/2017 - 31/03/2017	225.20	33.74	568 ↑	0.00	0.00	—
Manson Oval	082446940*	Water usage	28/12/2017 - 27/03/2018	27/09/2016 - 31/03/2017	224.42	42.64	426 ↑	67.38	12.94	421 ↑
Price Memorial Oval, Clubrooms And ...	0803324025	Water usage	18/01/2018 - 18/04/2018	27/09/2016 - 31/03/2017	156.29	15.54	906 ↑	45.67	4.50	915 ↑
Hewett Oval	0826068001	Water usage	28/12/2017 - 27/03/2018	27/09/2016 - 31/03/2017	140.48	21.95	540 ↑	41.86	6.48	546 ↑
Kingswood Oval	0800633009	Water usage	22/12/2017 - 26/03/2018	26/09/2016 - 31/03/2017	118.48	34.04	248 ↑	34.96	10.07	247 ↑
Mitcham Library	2001006390	Electricity - metered	15/01/2018 - 12/02/2018	17/01/2017 - 13/02/2017	116.00	73.90	57 ↑	392.20	335.55	17 ↑
Depot Melrose Park	2001662370	Electricity - metered	01/11/2017 - 30/11/2017	01/11/2016 - 30/11/2016	101.95	67.46	51 ↑	309.66	234.33	32 ↑
Norman Reserve (Sturt Baseball Club)	0814269009	Water usage	16/01/2018 - 17/04/2018	26/09/2016 - 31/03/2017	95.53	22.90	317 ↑	24.66	5.59	341 ↑
Kingswood Oval	0800633009	Water usage	26/03/2018 - 27/06/2018	20/12/2016 - 30/06/2017	90.80	74.38	22 ↑	25.63	22.53	14 ↑
Mitcham Library	2001006390	Electricity - metered	13/02/2018 - 14/03/2018	14/02/2017 - 15/03/2017	88.79	73.49	21 ↑	297.13	327.41	9 ↓
Blackwood Library	2001003944	Electricity - metered	19/06/2018 - 30/06/2018	16/06/2017 - 17/07/2017	82.91	61.33	35 ↑	264.08	274.31	4 ↓

Invoice explorer

This report is designed to allow further interrogation of invoices to determine cost and consumption trends and the ability to drill into line item charges and bill components. Importantly via this report bills can be easily downloaded via clickable links. Figure 15 illustrates a Community Centre and with consumption peaks during colder months and an overall increase trend from FY15 through FY18.

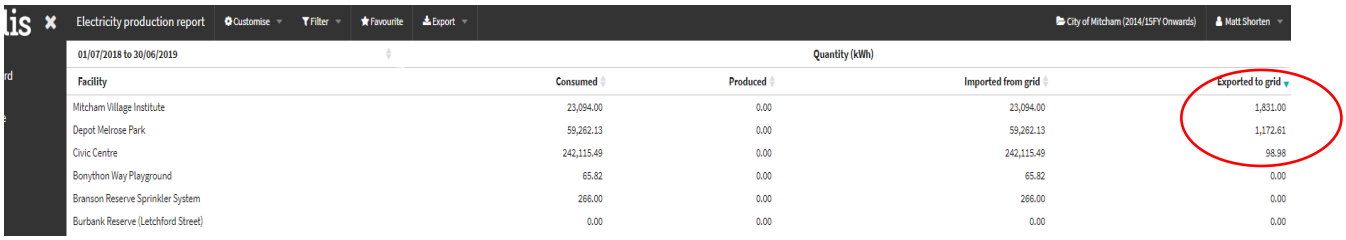
Figure 16: *Screenshot demonstrating invoice explorer charting option across a set period*



Energy production report

This report summarises electricity ‘feed-in’ as extracted directly from related invoices and ‘behind the meter’ production where relevant and integrated. Largely developed for clients with extensive solar PV, co-generation, diesel generators and tri-generation looking to capture the full consumption net of grid usage and for compliance reporting under the National Greenhouse & Energy Reporting Act.

Figure 17: Electricity production report highlighting ‘feed in’ or ‘Exported to grid’.



01/07/2018 to 30/06/2019	Quantity (kWh)			
Facility	Consumed	Produced	Imported from grid	Exported to grid
Mitcham Village Institute	23,094.00	0.00	23,094.00	1,831.00
Depot Melrose Park	59,262.13	0.00	59,262.13	1,172.61
Civic Centre	242,115.49	0.00	242,115.49	98.98
Bonython Way Playground	65.82	0.00	65.82	0.00
Branson Reserve Sprinkler System	266.00	0.00	266.00	0.00
Burbank Reserve (Letchford Street)	0.00	0.00	0.00	0.00

Designated benchmarking intelligence

Trellis allows the user to specify the benchmark information they wish to track and then provides a convenient upload format for the information. Benchmarks can currently be applied at the Inventory or Facility level. This can be easily expanded to include the desired benchmark applications for ICC.

Benchmarks can have a start and end date applied to allow for the change in these over time. All summary and periodic reporting are then able to be benchmarked immediately with the relevant benchmark applied to each time period.

Through this project, it is expected that further benchmarking exploration and insight will occur between agencies to allow for cross agency information sharing and learnings to drive further efficiencies and cost reductions in utility costs.

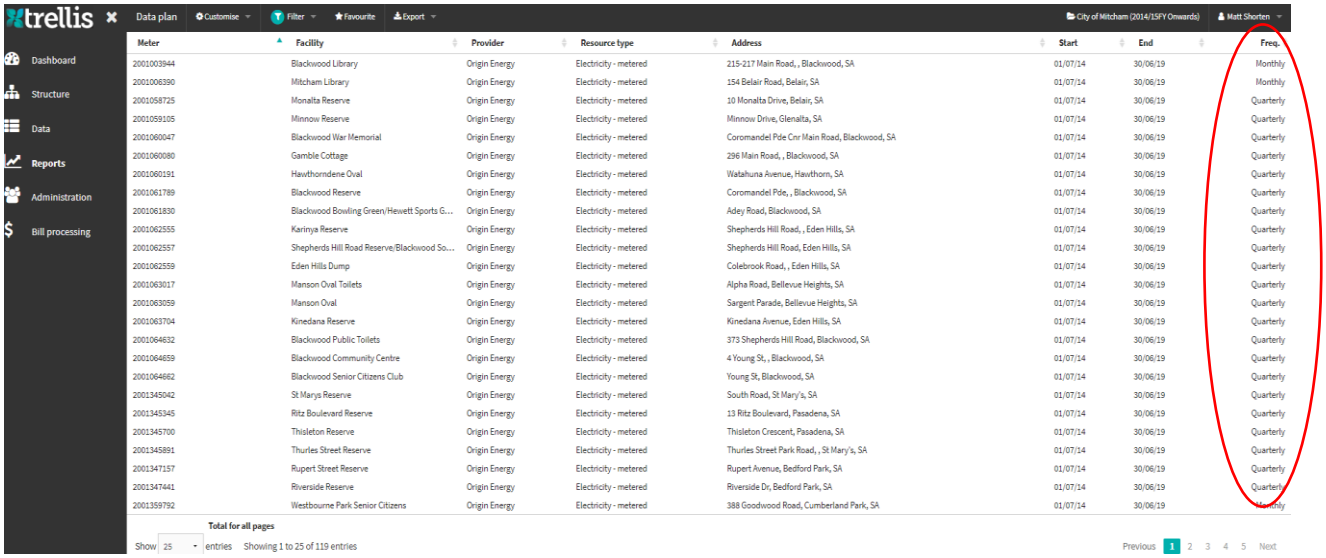
Push email notifications

Trellis allows designated users such as authorising officers, building owners, tenants, auditors and others to receive specific notifications and attachments from Trellis via automatic email. This can include bill attachments and configured reports.

Ensuring Data is Complete and Current

Trellis will designate a Data and Customer Liaison Officer to ensure your data is up to date and current consistent with the agreed Data Implementation Plan. We will actively request invoice data from your utility and other service providers whenever this is not automatically provided in accordance with the established protocols. We utilise two reports available to all users of Trellis to facilitate ensuring you data is complete and current. Firstly Trellis tracks the average frequency for which each account is billed by each utility provider based on the information loaded in the system to date. This helps establish the practical expectations for the frequency in which each account is billed i.e. monthly, quarterly, other.

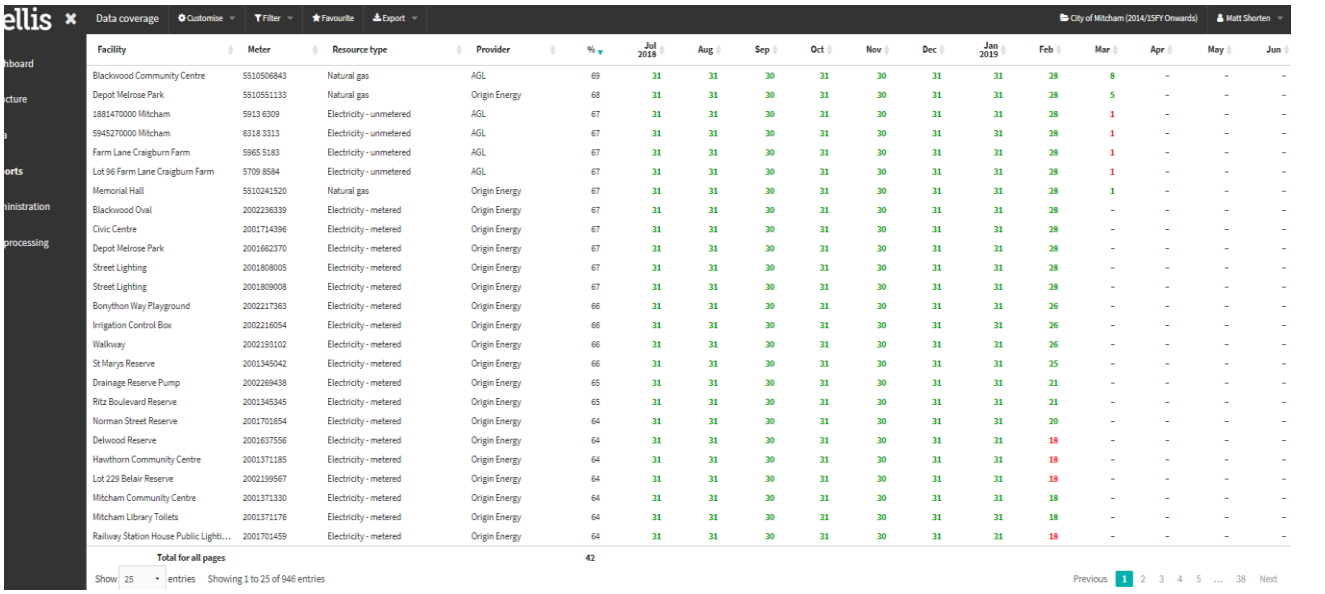
Figure 18: *Screenshot of the Trellis "Data Plan" report showing frequency which billing has actually being received*



Meter	Facility	Provider	Resource type	Address	Start	End	Freq.
2001003944	Blackwood Library	Origin Energy	Electricity - metered	215-217 Main Road, , Blackwood, SA	01/07/14	30/06/19	Monthly
2001006390	Mitcham Library	Origin Energy	Electricity - metered	154 Belair Road, Belair, SA	01/07/14	30/06/19	Monthly
2001058725	Monalta Reserve	Origin Energy	Electricity - metered	10 Monalta Drive, Belair, SA	01/07/14	30/06/19	Quarterly
2001059105	Minnow Reserve	Origin Energy	Electricity - metered	Minnow Drive, Glenalta, SA	01/07/14	30/06/19	Quarterly
2001060047	Blackwood War Memorial	Origin Energy	Electricity - metered	Coromandel Pde Cnr Main Road, Blackwood, SA	01/07/14	30/06/19	Quarterly
2001060080	Gamble Cottage	Origin Energy	Electricity - metered	296 Main Road, , Blackwood, SA	01/07/14	30/06/19	Quarterly
2001060191	Hawthorndene Oval	Origin Energy	Electricity - metered	Watahuna Avenue, Hawthorn, SA	01/07/14	30/06/19	Quarterly
2001061789	Blackwood Reserve	Origin Energy	Electricity - metered	Coromandel Pde, , Blackwood, SA	01/07/14	30/06/19	Quarterly
2001061830	Blackwood Bowling Green/Hewett Sports G...	Origin Energy	Electricity - metered	Adey Road, Blackwood, SA	01/07/14	30/06/19	Quarterly
2001062555	Karinya Reserve	Origin Energy	Electricity - metered	Shepherds Hill Road, , Eden Hills, SA	01/07/14	30/06/19	Quarterly
2001062557	Shepherds Hill Road Reserve/Blackwood So...	Origin Energy	Electricity - metered	Shepherds Hill Road, Eden Hills, SA	01/07/14	30/06/19	Quarterly
2001062559	Eden Hills Dump	Origin Energy	Electricity - metered	Colebrook Road, , Eden Hills, SA	01/07/14	30/06/19	Quarterly
2001063017	Manson Oval Toilets	Origin Energy	Electricity - metered	Alpha Road, Bellevue Heights, SA	01/07/14	30/06/19	Quarterly
2001063059	Manson Oval	Origin Energy	Electricity - metered	Sargent Parade, Bellevue Heights, SA	01/07/14	30/06/19	Quarterly
2001063704	Kinedana Reserve	Origin Energy	Electricity - metered	Kinedana Avenue, Eden Hills, SA	01/07/14	30/06/19	Quarterly
2001064632	Blackwood Public Toilets	Origin Energy	Electricity - metered	373 Shepherds Hill Road, Blackwood, SA	01/07/14	30/06/19	Quarterly
2001064659	Blackwood Community Centre	Origin Energy	Electricity - metered	4 Young St, , Blackwood, SA	01/07/14	30/06/19	Quarterly
2001064662	Blackwood Senior Citizens Club	Origin Energy	Electricity - metered	Young St, Blackwood, SA	01/07/14	30/06/19	Quarterly
2001345042	St Marys Reserve	Origin Energy	Electricity - metered	South Road, St Mary's, SA	01/07/14	30/06/19	Quarterly
2001345345	Ritz Boulevard Reserve	Origin Energy	Electricity - metered	13 Ritz Boulevard, Pasadena, SA	01/07/14	30/06/19	Quarterly
2001345700	Thisleton Reserve	Origin Energy	Electricity - metered	Thisleton Crescent, Pasadena, SA	01/07/14	30/06/19	Quarterly
2001345891	Thurles Street Reserve	Origin Energy	Electricity - metered	Thurles Street Park Road, , St Mary's, SA	01/07/14	30/06/19	Quarterly
2001347157	Rupert Street Reserve	Origin Energy	Electricity - metered	Rupert Avenue, Bedford Park, SA	01/07/14	30/06/19	Quarterly
2001347441	Riverside Reserve	Origin Energy	Electricity - metered	Riverside Dr, Bedford Park, SA	01/07/14	30/06/19	Quarterly
2001359792	Westbourne Park Senior Citizens	Origin Energy	Electricity - metered	388 Goodwood Road, Cumberland Park, SA	01/07/14	30/06/19	Monthly

Secondly the “Data Coverage” report provides a summary of the number of days in each month for which data is currently loaded in Trellis. It updates as data is received, highlighting where an invoice has yet to have been received at the meter level. This prompts either follow up from Trellis to determine if the meter has been closed, if the account is late to be issued or if there has been a meter replaced. It also allows the user an update of exactly what data is currently available in the system for their reporting obligations. The report can be easily customised to focus on particular set of facilities, for a specific retailer. Users can establish a “favourite” report and arrange for it to be emailed them periodically to streamline the monitoring of invoices available in Trellis. Note, Trellis does not apply estimated data as a replacement for actuals. With our short data processing timeframe estimates are typically not required.

Figure 19: *Screenshot of the "Data Coverage" Report in Trellis.*



Facility	Meter	Resource type	Provider	%	Jul 2018	Aug	Sep	Oct	Nov	Dec	Jan 2019	Feb	Mar	Apr	May	Jun
Blackwood Community Centre	5510506843	Natural gas	AGL	69	31	31	30	31	30	31	31	28	8	-	-	-
Depot Melrose Park	5510551133	Natural gas	Origin Energy	68	31	31	30	31	30	31	31	28	5	-	-	-
1881470000 Mitcham	5913 6309	Electricity - unmetered	AGL	67	31	31	30	31	30	31	31	28	1	-	-	-
5945270000 Mitcham	6318 3313	Electricity - unmetered	AGL	67	31	31	30	31	30	31	31	28	1	-	-	-
Farm Lane Craigburn Farm	5965 5183	Electricity - unmetered	AGL	67	31	31	30	31	30	31	31	28	1	-	-	-
Lot 96 Farm Lane Craigburn Farm	5709 8584	Electricity - unmetered	AGL	67	31	31	30	31	30	31	31	28	1	-	-	-
Memorial Hall	5510241520	Natural gas	Origin Energy	67	31	31	30	31	30	31	31	28	1	-	-	-
Blackwood Oval	2002236339	Electricity - metered	Origin Energy	67	31	31	30	31	30	31	31	28	-	-	-	-
Civic Centre	2001714396	Electricity - metered	Origin Energy	67	31	31	30	31	30	31	31	28	-	-	-	-
Depot Melrose Park	2001662370	Electricity - metered	Origin Energy	67	31	31	30	31	30	31	31	28	-	-	-	-
Street Lighting	2001808005	Electricity - metered	Origin Energy	67	31	31	30	31	30	31	31	28	-	-	-	-
Street Lighting	2001809008	Electricity - metered	Origin Energy	67	31	31	30	31	30	31	31	28	-	-	-	-
Bonython Way Playground	2002217363	Electricity - metered	Origin Energy	66	31	31	30	31	30	31	31	26	-	-	-	-
Irrigation Control Box	2002216054	Electricity - metered	Origin Energy	66	31	31	30	31	30	31	31	26	-	-	-	-
Walkway	2002193102	Electricity - metered	Origin Energy	66	31	31	30	31	30	31	31	26	-	-	-	-
St Marys Reserve	2001345042	Electricity - metered	Origin Energy	66	31	31	30	31	30	31	31	25	-	-	-	-
Drainage Reserve Pump	2002269438	Electricity - metered	Origin Energy	65	31	31	30	31	30	31	31	21	-	-	-	-
Ritz Boulevard Reserve	2001345345	Electricity - metered	Origin Energy	65	31	31	30	31	30	31	31	21	-	-	-	-
Norman Street Reserve	2001701654	Electricity - metered	Origin Energy	64	31	31	30	31	30	31	31	20	-	-	-	-
Delwood Reserve	2001637556	Electricity - metered	Origin Energy	64	31	31	30	31	30	31	31	18	-	-	-	-
Hawthorn Community Centre	2001371185	Electricity - metered	Origin Energy	64	31	31	30	31	30	31	31	18	-	-	-	-
Lot 229 Belair Reserve	2002199567	Electricity - metered	Origin Energy	64	31	31	30	31	30	31	31	18	-	-	-	-
Mitcham Community Centre	2001371330	Electricity - metered	Origin Energy	64	31	31	30	31	30	31	31	18	-	-	-	-
Mitcham Library Toilets	2001371176	Electricity - metered	Origin Energy	64	31	31	30	31	30	31	31	18	-	-	-	-
Railway Station House Public Lighti...	2001701459	Electricity - metered	Origin Energy	64	31	31	30	31	30	31	31	18	-	-	-	-
Total for all pages				42												

File Formats

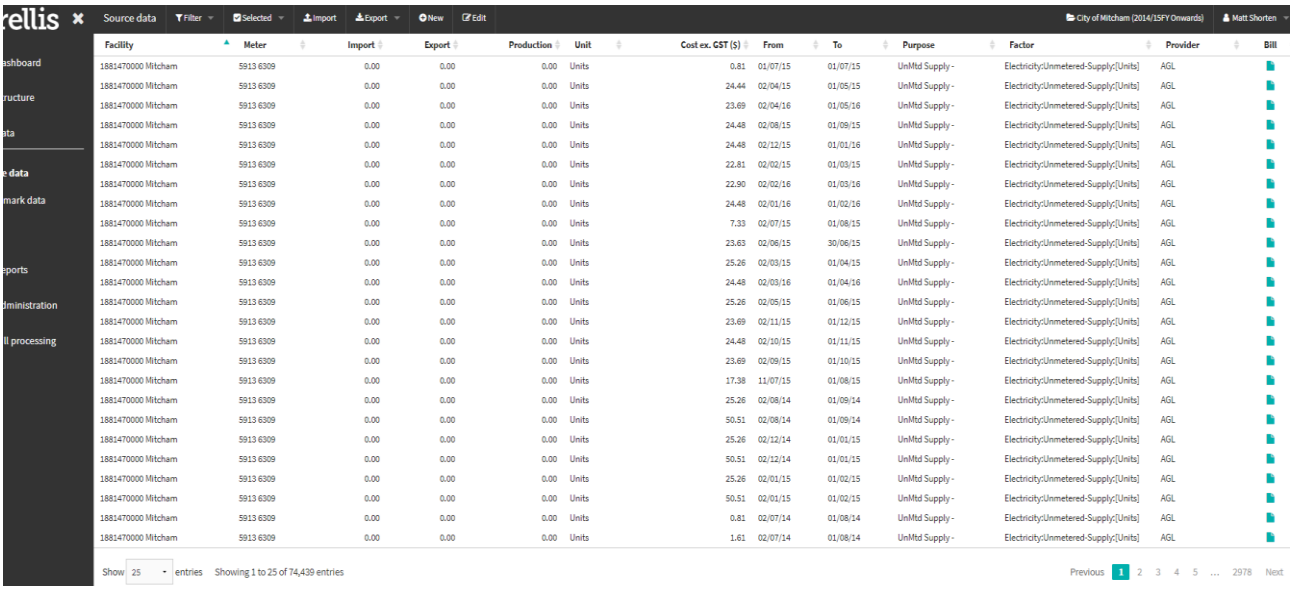
The Trellis automated bill reader system eliminates transcription errors by automatically capturing and reading electronic PDF utility bills or csv files, as they are received, creating a robust and verifiable data set.

We capture all relevant information provided on the bill, inclusive of meter reference indicators, costs, (including all network and retail charges) consumption data, location details and billing period information. Because billing data changes, we do not predetermine what the charges should and shouldn't be, but rather read the bill as it arrives and reflect any new charges in the system.

Wherever source data is provided to Trellis that is not in either a readable PDF (eg a scanned pdf), or spreadsheet, this data is manually uploaded by Trellis staff. This might include excel spreadsheets, e-mails and so forth.

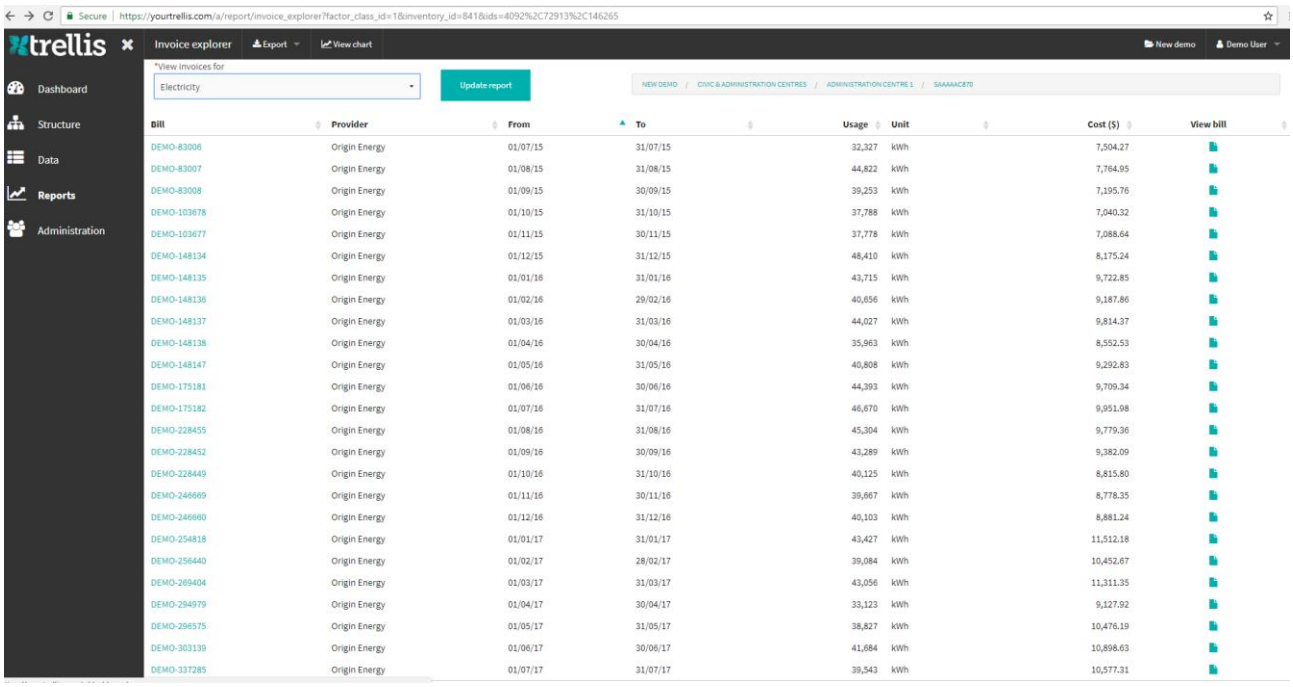
Trellis provides the opportunity for users with editing privileges to either directly enter data into the system through a template form or to perform a bulk upload function through a provided excel template. The bulk upload functionality enables quick and easy upload of source data with all instructions directly provided in Trellis with the download template.

Figure 20: *Screenshot of the Data area of Trellis providing a listing of each bill loaded into Trellis with the relevant invoice file (PDF) attached and accessible within the system. This allows tracking by account.*



Facility	Meter	Import	Export	Production	Unit	Cost ex. GST ($)	From	To	Purpose	Factor	Provider	Bill
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	0.81	01/07/15	01/07/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	24.44	02/04/15	01/05/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	23.69	02/04/16	01/05/16	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	24.48	02/08/15	01/09/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	24.48	02/12/15	01/01/16	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	22.81	02/02/15	01/03/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	22.90	02/02/16	01/03/16	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	24.48	02/01/16	01/02/16	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	7.33	02/07/15	01/08/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	23.63	02/06/15	30/06/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	25.26	02/03/15	01/04/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	24.48	02/03/16	01/04/16	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	25.26	02/05/15	01/06/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	23.69	02/11/15	01/12/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	24.48	02/10/15	01/11/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	23.69	02/09/15	01/10/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	17.38	11/07/15	01/08/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	25.26	02/08/14	01/09/14	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	50.51	02/08/14	01/09/14	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	25.26	02/12/14	01/01/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	50.51	02/12/14	01/01/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	25.26	02/01/15	01/02/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	50.51	02/01/15	01/02/15	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	0.81	02/07/14	01/08/14	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	
1881470000 Mitcham	5913 6309	0.00	0.00	0.00	Units	1.61	02/07/14	01/08/14	UnMtd Supply -	Electricity:Unmetered-Supply:[Units]	AGL	

Figure 21: *Screenshot of the Invoice Reporting area showing the allocation of individual invoices by Meter against a Facility and ability to 'view bill' via link, which launches the PDF bill at the relevant page (where a consolidated bill has many pages).*



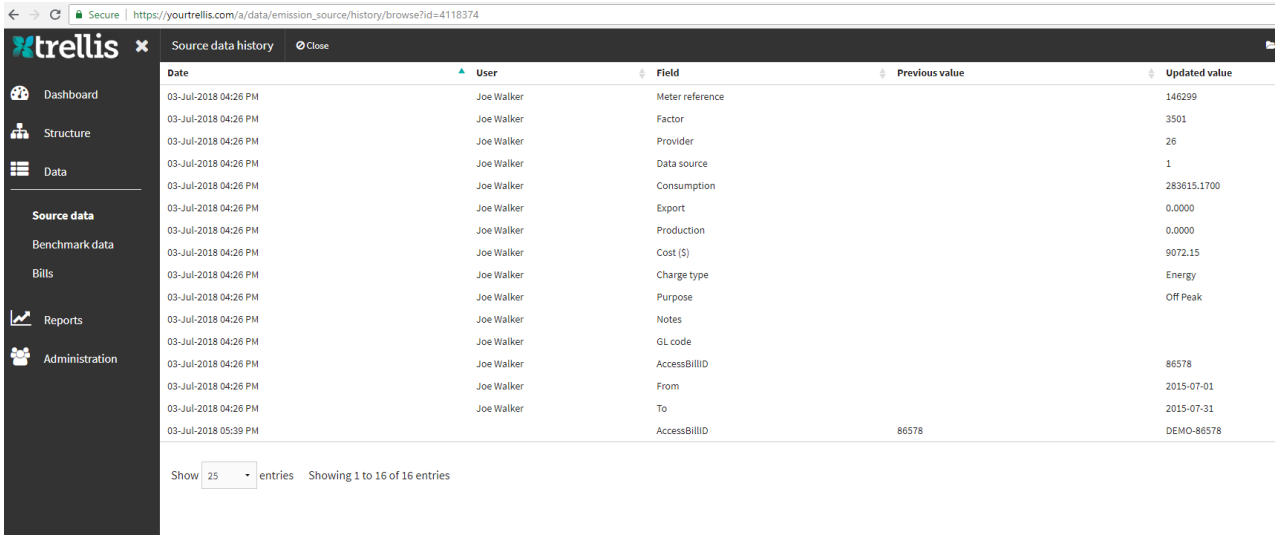
Bill	Provider	From	To	Usage	Unit	Cost ($)	View bill
DEMO-83006	Origin Energy	01/07/15	31/07/15	32,327	kWh	7,504.27	
DEMO-83007	Origin Energy	01/08/15	31/08/15	44,822	kWh	7,764.95	
DEMO-83008	Origin Energy	01/09/15	30/09/15	39,253	kWh	7,195.76	
DEMO-103678	Origin Energy	01/10/15	31/10/15	37,788	kWh	7,040.32	
DEMO-103677	Origin Energy	01/11/15	30/11/15	37,778	kWh	7,088.64	
DEMO-148134	Origin Energy	01/12/15	31/12/15	48,410	kWh	8,175.24	
DEMO-148135	Origin Energy	01/01/16	31/01/16	43,715	kWh	9,722.85	
DEMO-148136	Origin Energy	01/02/16	29/02/16	40,656	kWh	9,187.86	
DEMO-148137	Origin Energy	01/03/16	31/03/16	44,027	kWh	9,814.37	
DEMO-148138	Origin Energy	01/04/16	30/04/16	35,963	kWh	8,552.53	
DEMO-148147	Origin Energy	01/05/16	31/05/16	40,808	kWh	9,292.83	
DEMO-175181	Origin Energy	01/06/16	30/06/16	44,393	kWh	9,709.34	
DEMO-175182	Origin Energy	01/07/16	31/07/16	46,670	kWh	9,951.98	
DEMO-228455	Origin Energy	01/08/16	31/08/16	45,304	kWh	9,779.36	
DEMO-228452	Origin Energy	01/09/16	30/09/16	43,289	kWh	9,382.09	
DEMO-228449	Origin Energy	01/10/16	31/10/16	40,125	kWh	8,815.80	
DEMO-246669	Origin Energy	01/11/16	30/11/16	39,667	kWh	8,778.35	
DEMO-246660	Origin Energy	01/12/16	31/12/16	40,103	kWh	8,881.24	
DEMO-254818	Origin Energy	01/01/17	31/01/17	43,427	kWh	11,512.18	
DEMO-256440	Origin Energy	01/02/17	28/02/17	39,084	kWh	10,452.67	
DEMO-269404	Origin Energy	01/03/17	31/03/17	43,056	kWh	11,311.35	
DEMO-294979	Origin Energy	01/04/17	30/04/17	33,123	kWh	9,127.92	
DEMO-296575	Origin Energy	01/05/17	31/05/17	38,827	kWh	10,476.19	
DEMO-303139	Origin Energy	01/06/17	30/06/17	41,684	kWh	10,898.63	
DEMO-337285	Origin Energy	01/07/17	31/07/17	39,543	kWh	10,577.31	

Audit History Tracking

Each and every field of data in Trellis has an independent change tracking log which records the time, date and person who has uploaded and/or altered each field.

We have identified in the Trellis Development Framework, the need to archive these reports after 30 days. These archived reports can be provided to participating contract manager(s).

Figure 22: *Screenshot to demonstrate data change history tracking for a facility listing*



Date	User	Field	Previous value	Updated value
03-Jul-2018 04:26 PM	Joe Walker	Meter reference		146299
03-Jul-2018 04:26 PM	Joe Walker	Factor		3501
03-Jul-2018 04:26 PM	Joe Walker	Provider		26
03-Jul-2018 04:26 PM	Joe Walker	Data source		1
03-Jul-2018 04:26 PM	Joe Walker	Consumption		283615.1700
03-Jul-2018 04:26 PM	Joe Walker	Export		0.0000
03-Jul-2018 04:26 PM	Joe Walker	Production		0.0000
03-Jul-2018 04:26 PM	Joe Walker	Cost ($)		9072.15
03-Jul-2018 04:26 PM	Joe Walker	Charge type		Energy
03-Jul-2018 04:26 PM	Joe Walker	Purpose		Off Peak
03-Jul-2018 04:26 PM	Joe Walker	Notes		
03-Jul-2018 04:26 PM	Joe Walker	GL code		
03-Jul-2018 04:26 PM	Joe Walker	AccessBillID		86578
03-Jul-2018 04:26 PM	Joe Walker	From		2015-07-01
03-Jul-2018 04:26 PM	Joe Walker	To		2015-07-31
03-Jul-2018 05:39 PM		AccessBillID	86578	DEMO-86578

Show 25 entries Showing 1 to 16 of 16 entries

9.0 Help when you need it

We are available during normal business hours to answer your queries regarding your files and are committed to pro-active engagement and management through a dedicated Customer / Data Manager. We have provided various avenues for your staff to contact us and to provide information regarding Trellis inclusive of:

- A downloadable help manual within Trellis;
- A downloadable factors and methods workbook which sets out all reference data for the emissions factors;
- The ability to e-mail our system administrator directly through Trellis;
- A dedicated Client Manager available to answer your queries; and
- Our office is open during business hours and all staff can answer your queries.

Please note that all system errors are e-mailed through to the Program Developer as they occur, allowing our timely response to any system issues as you encounter them.

10.0 Security, service and privacy

Customer information is stored on servers located in Digital Pacific's Sydney data centre. Digital Pacific are a member of the Australian Government Cloud Services Panel, meaning that they are approved to provide services to federal agencies and audited according to the requirements of the Protective Security Policy Framework (PSPF; https://www.protectivesecurity.gov.au).

Backups are stored using Amazon S3, a Certified Cloud Service under the Information Security Registered Assessors Program (IRAP; https://www.asd.gov.au/infosec/irap.htm).

Our recovery point objective (RPO), the maximum length of time for which data may be lost in the event of a serious incident, is 12 hours, with full system backups taken twice daily.

In the event of a major incident which causes the primary servers to be unusable, our recovery time objective (RTO) is 24 hours.

Trellis software is utilised under license to a customer. All customer information and data is kept strictly confidential and remains the property of the customer. Full CSV exports of all data can be produced at regular intervals and provided for download via secure FTP for the client's own backup purposes.

Connections to the Trellis application are encrypted and authenticated using a strong protocol (TLS 1.2), a strong key exchange (ECDHE_RSA with P-256), and a strong cipher (AES_128_GCM).

Trellis Technologies will provide 24 hour notice of any planned maintenance which will result in Trellis being unavailable for longer than 1 hour during business hours. We will attempt to maintain an uptime (exclusive of scheduled maintenance) of 99.9% or greater.

Help desk support is available between 8:00 am to 6:00 pm on business days.

Specific ICT Conditions Of Contract to be a signed as part of contract.

11.0 Fees

Table Three below provides a breakdown of the Trellis engagement detail included within this service. Each individual participating council, will enter into a Service Level Agreement with Trellis Technologies.

Table Four provides the fee structure per council based on https://www.abs.gov.au/ residential population estimates.

Annual fees are subject to CPI adjustment.

Table Five, provides a breakdown of proposed fee to integrate other data sources, such as from solar PV or sub-metering of behind the meter energy production.

Table 3: **Engagement detail**

Engagement Component	Detail
Trellis License	
License & Reporting	➢ Unlimited user access ➢ Training ➢ Support ➢ Security ➢ Data Implementation Plan ➢ System configuration & maintenance ➢ Quarterly meetings with individual councils ➢ Annual group meeting reviewing and developing 'State of' reporting ➢ Annual State of Report (or similar) ➢ Streetlighting Network vs Provider comparison reporting
Invoice (and other) source data integration	
Electricity	➢ Any retailer provider via original electronic PDF invoices (monthly / quarterly)
Network (S/Lighting)	➢ Via original electronic PDF invoices (monthly)
Natural Gas	➢ Any retailer provider via original electronic PDF invoices (monthly / quarterly)
Mains Water	➢ Via either original electronic PDF invoices OR quarterly spreadsheets
Transport and stationary fuel	➢ Any fuel provider via either original electronic PDF invoices OR monthly import from fuel provider portal
Waste (corporate & community)	➢ Any waste providers via original electronic PDF invoices
Business travel (flights)	➢ Any data format either invoices from corporate travel provider or spreadsheet summaries from councils (monthly)
Business travel (taxis)	➢ Spend provided as spreadsheets from finance system (Monthly)
Paper / stationary	➢ Any paper / stationary provider via original electronic invoices (monthly)

Table 4: **Fee structure per council per annum based on Table 4 inclusions**

Council	Population Estimate FY16. Source: https://www.abs.gov.au/	Annual Fee .50c per head of population ($ ex-GST)
Strathbogie Shire	10,645	
Murrindindi Shire	13,732	
Shire of Towong	5,985	
Benalla Shire	13,861	
	Total (ex-GST)	**Prices redacted**

Table 5: **Additional Service / connection fees**

Engagement Component	Detail	Fee ($ ex-GST)
Interval data integration via source		
➢ Interval meter data from sub-metering	➢ Integration and reporting of sub-metering data (monthly)	➢ Prices redacted
➢ Interval meter data from behind the meter energy production (Solar PV)	➢ Integration and reporting of behind the meter production	➢ Prices redacted .

12.0 Appendix 1: Workplan to be executed with each individual participating council

Milestone	Key deliverable	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	
Trellis License and Data capture services activated	Purchase Order submitted to TT by participating council. Service Level Agreement draft provided to council.	✓														ON-GOING
Review and update Data Implementation Plan (DIP)	DIP drafted and finalised for year one (FY2020). TT map in Trellis.	✓														
Contract commencement meeting (on-site)	Review team data/reporting priorities (on-site meeting) and update SLA as required.	✓														
Council provide list of facilities, maters and project detail	Council operations mapped in Trellis		✓													
Establish forwarding email. Review accounts and completeness.	Forwarding email established. All invoices being forwarded to data@yourtrellis.com (or similar email)		✓													
Historical data integrated	Historical data integrated into Trellis		✓													
Provide training to Council user groups	Group training provided		✓													
Finance system integration workshop with finance unit and other stakeholders	AP workflow mapped					✓										
Implement integration	Trellis data provided in required formats at agree intervals					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Quarterly progress meeting	Review team data/reporting priorities		✓			✓			✓			✓			✓	
Invoices via forwarding email captured and processed as received. QAQC checked and reported in Trellis	Electricity, gas, water, waste and other invoices captured, QAQC checked and reported in Trellis		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Monthly or quarterly data (where not invoicing) from suppliers integrated	Non-invoice data integrated monthly or quarterly as required		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Provide notification of billing exceptions (via email)	Billing exception +/-20% reporting provided on periodic basis.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Helpdesk support (on-going)	Helpdesk support (on-going)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
State of Reporting	Participating council workshop					✓										
State of Reporting	Report submitted annually by 31st October					✓										

13.0 Appendix 2: Service Level Agreement (SLA) example

SERVICE LEVEL AGREEMENT (SLA) for Participating Customer by

Trellis Technologies Pty Ltd

Period	From	To
TBD	01 July 2019	TBD

Approval

(By signing below, all Approvers agree to all terms and conditions outlined in this Agreement.)

Approvers	Role	Signed	Approval Date
Trellis Technologies Pty Ltd	CEO, Service Provider		
Participating Council (name)	Customer		

Table of Contents

1. Agreement Overview

This Agreement represents a Service Level Agreement ("SLA" or "Agreement") between Trellis Technologies Pty Ltd. (*Trellis* Technologies) and *Participating Council (the Customer)* for the provisioning of software services required to support and sustain Trellis Software as a Service (*Trellis*).

This Agreement remains valid until superseded by a revised agreement mutually endorsed by the stakeholders.

2. Goals & Objectives

The **purpose** of this Agreement is to ensure that the proper elements and commitments are in place to provide consistent software service support and delivery to the Customer(s) by the Service Provider(s).

The **objectives** of this Agreement are to:

- Clearly identify, accountability, roles and/or responsibilities for *Trellis Technologies* and the *Customer*.
- Present a clear, concise and measurable description of service provision to the customer.

3. Stakeholders

The following Service Provider(s) and Customer(s) will be used as the basis of the Agreement and represent the **primary stakeholders** associated with this SLA:

Software Service Provider(s): Trellis Technologies Pty Ltd. ("Provider")
Software Customer(s): Participating Council <NAME> ("Customer")

4. Periodic Review

This Agreement is valid from the **Approval Date** outlined herein and is valid for the period of the Trellis license or until further notice. This Agreement should be reviewed in alignment with Trellis license periods or as otherwise agreed.

The Trellis Technologies **CEO** is responsible for facilitating regular reviews of this document. Contents of this document may be amended as required, provided mutual agreement is obtained from the primary stakeholders and communicated to all affected parties. The Document Owner will incorporate all subsequent revisions and obtain mutual agreements/approvals as required.

5. Service Agreement

The following detailed service parameters are the responsibility of the Service Provider in the ongoing support of this Agreement.

5.1. Service Scope

The following Services are covered by this Agreement;

- Provide access to Trellis
- Maintenance of emissions factors and calculations
- Maintain system uptime
- Provide telephone support during AEST business hours
- Provide monitored email support
- Process and integrate invoice and other data listed in Schedule 1 within <5 business days (from receipt)

5.2. Customer Responsibilities

Customer responsibilities and/or requirements in support of this Agreement include:

- Establishment auto forwarding email for relevant invoices and data streams within 14 days of Data Implementation Plan acceptance
- Maintain auto forwarding email to ensure invoices are forwarded on an on-going basis
- Nominate a contact person to work with the Service Provider to manage data gaps
- Upon receiving notification from the Service Provider that a data gap exists, obtain and forward relevant data files
- Provide complete facility / asset lists for setup
- Provision of all other required data in agreed format at agreed timing
- Issue and maintain user accounts / passwords
- Notify Service Provider of account or contract changes related to included data
- Co-ordinate user training as required
- Provide key contact details for IT and Finance key personnel related to forwarding email setup and contract changes

5.3. Service Provider Responsibilities

Service Provider responsibilities and/or requirements in support of this Agreement include:

- Meet response times associated with service related support.
- Notify Customer of data gaps, which may represent invoices that have not been forwarded to the Service Provider for processing, within 5 business days of them being recorded as a legitimate data gap. Note, gaps are legitimised in Trellis 28 days after the end date for the last invoice period to allow for invoice issuance timing (typically 2-3 weeks after end date of last invoice period).
- Notify Customer in advance (minimum 5 business days) of all scheduled maintenance
- Process invoices and load data received via forwarding email; 95% if all invoices within 5 business days and 100% within 10 business days
- Notify the Customer where invoice processing is necessarily delayed relative to agreed service level (e.g. when conflicting data are found or additional information is required to support processing) and work with Customer to resolve problem.

5.4. Service Assumptions

Assumptions related to in-scope services include:

- Changes to services will be communicated and documented to all stakeholders.

6. Service Management

Effective support of in-scope services is a result of maintaining consistent service levels. The following sections provide relevant details on service availability, monitoring of in-scope services and related components.

6.1. Service Availability

Coverage parameters specific to the service(s) covered in this Agreement are as follows:

- Telephone support: 9:00 A.M. to 5:00 P.M. Monday – Friday AEST
  - Calls received out of office hours will be forwarded to a mobile phone and best efforts will be made to answer / action the call.
- Email support: Monitored 9:00 A.M. to 5:00 P.M. Monday – Friday AEST
  - Emails received outside of office hours will be collected, however no action can be guaranteed until the next working day
- System uptime target of 98.5% monthly

6.2. Service Requests

In support of services outlined in this Agreement, the Service Provider will respond to support requests submitted by the Customer within the following time frames:

- Within 24 hours (during business hours) for all support requests issued via support@yourtrelllis.com
- Immediately for phone support requests via 1300 775 410

7. Fees

Schedule One, provides a breakdown of fees for FY20 data services (first year) with future years subject to annual CPI adjustment.

Schedule One (Example)

Provider	Data Source	Information	Assets	Frequency	Method of receipt	Fee FY20 ex-GST	Fee FY21 ex-GST (plus CPI)
Electricity (AGL, Origin)	Provider invoices – AGL	Unmetered and metered accounts	4 unmetered accounts	Monthly	Forwarding email		
	Provider invoices – AGL	Small market standalone accounts	1 NMI	As received/quarterly	Forwarding email		
	Provider invoices – Origin	Small market consolidated accounts	112 NMI	As received/quarterly	Forwarding email		
	Provider invoices – Origin	Large market standalone accounts (including unmetered street lighting)	5 NMIs	Monthly	Forwarding email		
	Provider invoices – DPTI	Streetlight quantities converted into kWh based on AEMO Load Table	1 account	Monthly	Forwarding email		
	Provider invoices – SAPN	Streetlight quantities converted into kWh based on AEMO Load Table	1 account	Monthly	Forwarding email		
Natural Gas (Origin, AGL)	Provider invoices – Origin	Small market standalone accounts	5 MIRNs	Quarterly	Forwarding email		
	Provider invoices – AGL	Small market standalone accounts	1 MIRN	Quarterly	Forwarding email		
Transport Fuel	Transaction report – Caltex	Obtained from Caltex portal by TT. 4 spreadsheets per year.	5 waste truck accounts 250 fleet accounts	Monthly	Obtained from portal		

Provider	Data Source	Information	Assets	Frequency	Method of receipt	Fee FY20 ex-GST	Fee FY21 ex-GST (plus CPI)
Water Usage	Sydney Water	Integration of CIQR report	457 Meters	Quarterly	Forwarding email		
Flights and taxis	Finance unit	$ spend on taxis and flight from-to and date of travel. Provided in excel broken down by month	NA	Bi-annual	Submitted to data@yourtrellis.com		
Solo	Provider invoices	Waste collection (Landfill, GO and recycling)	NA	Monthly	Submitted to data@yourtrellis.com		
All Bulk	Provider invoices	GO collection and hard waste transport and recycling	NA	Monthly	Submitted to data@yourtrellis.com		
Cleanaway	Provider invoices	Medical waste	NA	Monthly	Submitted to data@yourtrellis.com		
Toxfree	Provider invoices	Battery recycling	NA	Monthly	Submitted to data@yourtrellis.com		
Beaurepairs	Provider invoices	Tyre recycling	NA	As required	Submitted to data@yourtrellis.com		
EnviroSweep	Provider invoices	Street sweepings		Monthly	Submitted to data@yourtrellis.com		
	Spreadsheet	Fuel from trucks (fuel type and quantity)	NA	Monthly	Submitted to data@yourtrellis.com		
Veolia	Provider invoices	C&D waste and (Scrap steel, Road	NA	Weekly	Submitted to data@yourtrellis.com		

Provider	Data Source	Information	Assets	Frequency	Method of receipt	Fee FY20 ex-GST	Fee FY21 ex-GST (plus CPI)
		Base, Soil and wood)					
Drum Muster	Provider invoices or spread sheet	Re-use containers	NA	Monthly	Submitted to data@yourtrellis.com		
Waste Oil	Provider invoices or spread sheet	Waste oil recycling from Melrose Park Depot	NA	Ad-hoc	Submitted to data@yourtrellis.com		
ResourceCo	Provider invoices	Domestic waste disposal to landfill	NA	Weekly	Submitted to data@yourtrellis.com		
East Waste	Provider invoices	Hard Waste, GO and Recycling	NA	Monthly	Submitted to data@yourtrellis.com		
	Spread sheet	Fuel from trucks (fuel type and quantity)	NA	Monthly	Submitted to data@yourtrellis.com		
Solar interval	Spread sheet	Solar interval data	3 existing	Monthly	Submitted to data@yourtrellis.com		
All waste provider setup (Solo, All Bulk, Cleanaway, Toxfree, Beaurepairs, Envirosweep, Veolia, Drim Muster, Waste Oil, ResourceCo and East Waste)							
Trellis License							

The following schedule outlines the data inclusions within scope of this agreement. TT = Trellis Technologies receipt email address (data@yourtrellis.com), Auto-forward = established auto forward email by customer to data@yourtrellis.com

8. Variations

Any variation to the list in Schedule One may incur additional fees. Any data provided to Trellis Technologies is assumed to be final and will be uploaded to the appropriate Trellis inventory and facility. Once data has been uploaded, any subsequent changes to the particular data source may incur additional fees.

Each new provider/supplier (‘Provider’ Column) added incurs a one off $660 fee for setup and configuration. In addition to this for electricity and natural gas each additional retail meter, interval meter or sub-meter added incurs a $96 (ex-GST) p.a. fee.

Additional support fees are charged at $220 ex. GST per hour. An estimate of time required to complete any variation, and hence total fee, will be provided to the client. Any variations to the Service Level Agreement will be pre-agreed between Trellis Technologies and the client before they are invoiced or actioned.

Phone 1300 775 410
Email info@yourtrellis.com
www.yourtrellis.com

trellis Sustainability Faster.

1

We are a Software as a Service company, which launched in 2016.
We provide our customers with:

The ability to process and interpret transaction data, leveraging an existing single source of truth to gain full visibility on impact and spend.

To date Trellis has processed over $1 billion in transactions across over 80 suppliers.

trellis Sustainability Faster.

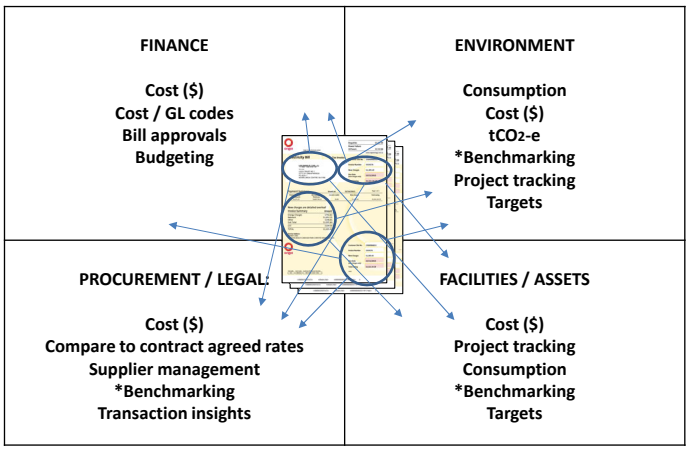
2

Sample customers:

3

CUSTOMER NEEDS – A FOCUS ON COLLABORATION

Invoices provide a rich stream of information relevant to many Business Areas



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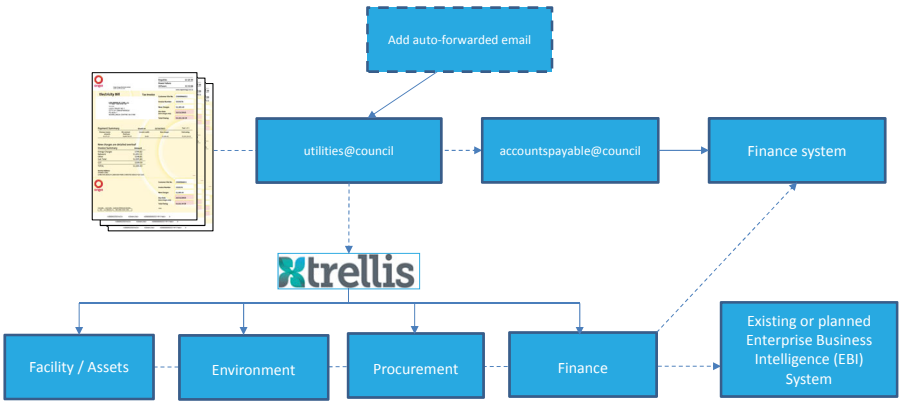
4

AUGMENTED TRANSACTION INTELLIGENCE & HOW IT WORKS



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5

USE CASES

By automating extraction and dissemination of ALL or SELECT information contained within an invoice Trellis can drive business intelligence and efficiency across a range of Business Areas including, (but not limited to) the following:

FINANCE	ENVIRONMENT
Reduce data entry time **Flag invoice exceptions** **Share invoice insights** **Know invoice completeness/coverage** **Go live with reporting faster**	**Reduce data aggregation time** **Rely on compliant tCO2-e conversions** **Identify focus areas** **Track projects and initiatives (cost and consumption trends)** **Set targets (cost and consumption)** **Share results** **Be audit ready**
PROCUREMENT	**FACILITIES / ASSETS**
Go to market data **Quick view number of invoices by supplier** **Quick view number of invoices / month /Discount % applied** **Quick view Invoicing by GL / Authorising Officer** **Contract budgeted vs spend YTD** **Off vs On contract spend** **Contract fail indicator**	**Reduce data aggregation time** **Identify and monitor focus sites** **Monitor projects** **Net consumption (billed amount less on-charged)** **Monitor projects (Solar PV, other)** **Consumption monitoring** ***Benchmarking** **Set targets** **Access invoices**

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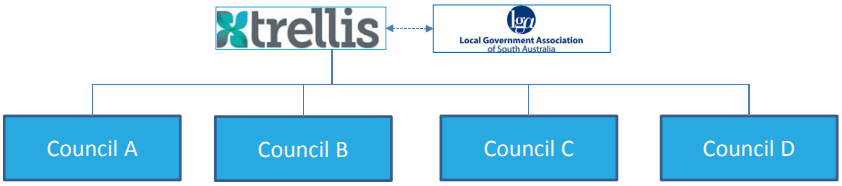
6

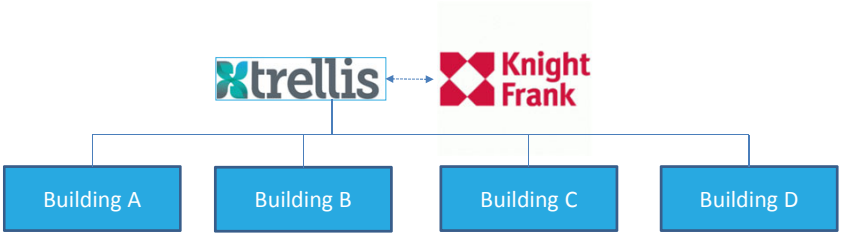
LGA SA – SECTORAL TRANSACTION INTELLIGENCE



11 councils in sectoral benchmarking pilot

7

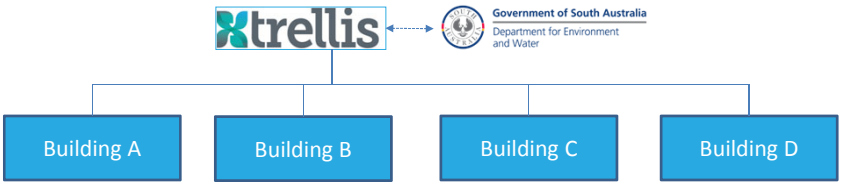
SECTORAL TRANSACTION INTELLIGENCE



>4000 buildings

8

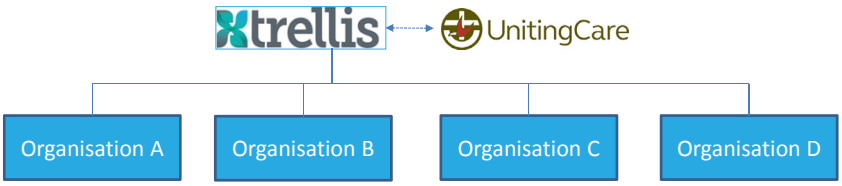
SECTORAL TRANSACTION INTELLIGENCE



>20 buildings

9

SECTORAL TRANSACTION INTELLIGENCE

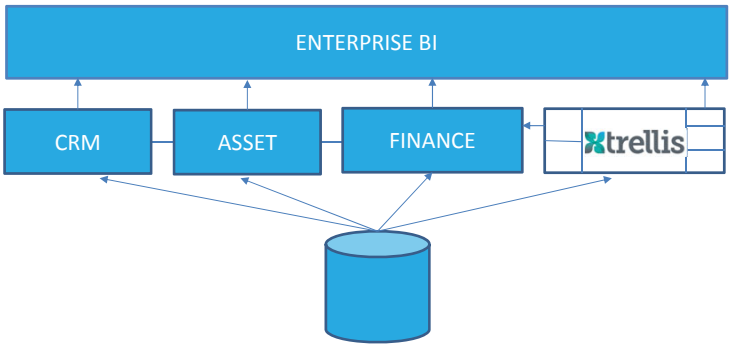


>18 organisations

10

INTEGRATION - ENTERPISE BI

Integration with other business systems via API or other import rules is a critical feature of Trellis

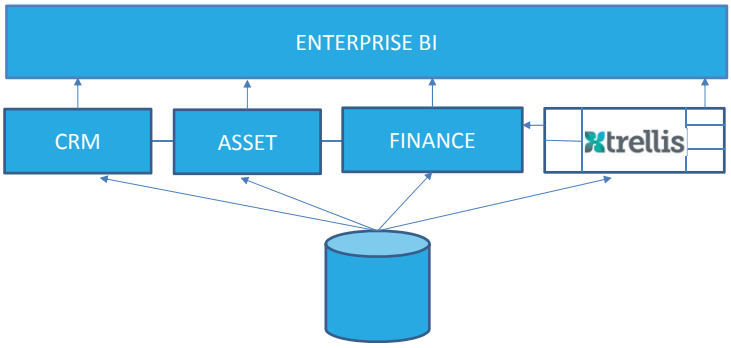


trellis Sustainability Faster.

11

INTEGRATION - ENTERPISE BI

Integration with other business systems via API or other import rules is a critical feature of Trellis



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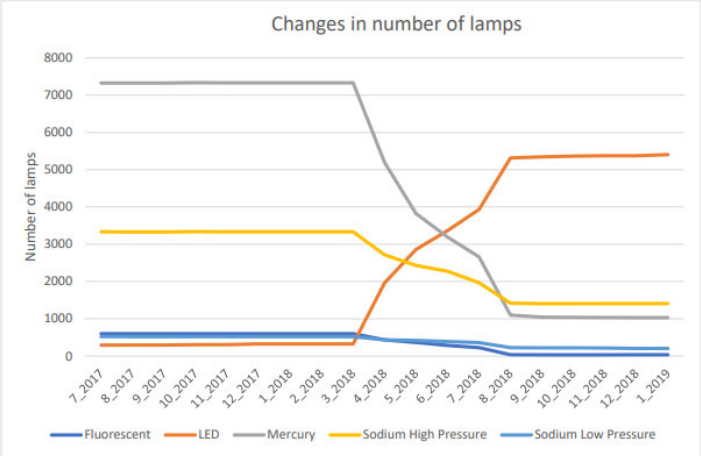
EXAMPLE REPORTS

Many 1000's of report variations are possible in Trellis considering inclusions, time periods, locations, unit of measure, suppliers and much more. All reports are able to be setup as 'favourites', exportable to excel or PDF and able to be automatically emailed to key personnel.

The Trellis development roadmap is driven by priorities based on customer needs. Many new and exciting features are added to our roadmap, which is reviewed and re-prioritised every two weeks under our agile development framework.

Network vs Origin



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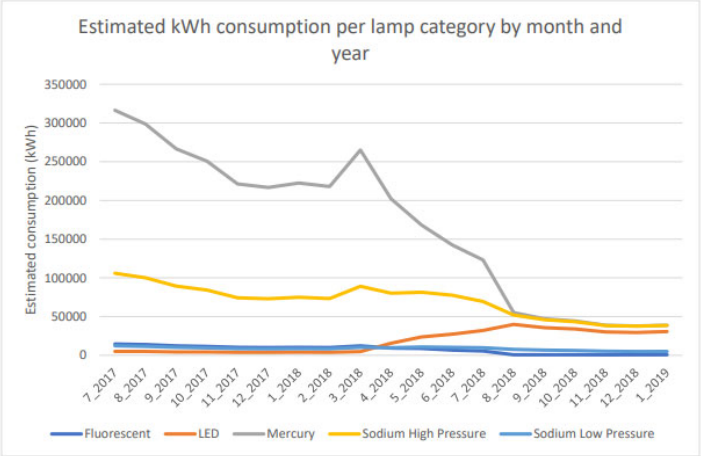

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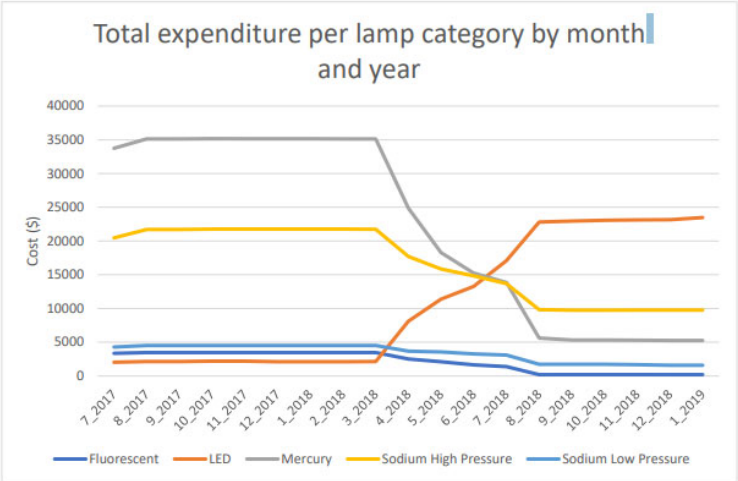
Network vs Origin



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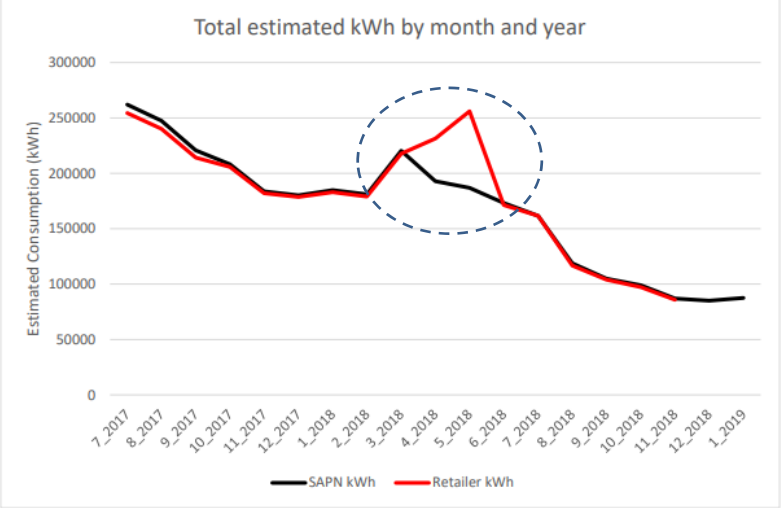
Network vs Origin



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ndevr environmental

Carbon Crunching Councils

PSG Preliminary Questions for the Finalist Providers

Trellis

1. **How do you handle fleet and waste data from Council's (i.e. non-utility data but still resource data that we need for emissions reporting?)**

Our preference is to directly intercept electronic invoicing across any category they are wanting to report on. Trellis is underpinned by a machine learning AI based approach to extracting line item level data from unstructured data such as electronic PDF invoices (and other PDF reports). This is typically our way of gathering waste data by contactor, by waste category, by charge type, by quantity, by cost and do the CO2-e conversions. For fuel we intercept invoicing and various fleet card portals like Caltex of MotoPass etc.

By preferencing original invoices, we ensure:

- We capture a single source of truth with all data traceable back to highest order original records
- We can disseminate different pieces of data from an invoice to different internal business areas. For example procurement might be interested in number of invoices by supplier, total spend YTD by supplier, number of contracts etc. Finance may just want invoice number and total cost. Environment team might want the tCO2-e reporting and so on.
- We can make this process data live in less than 5 days from receipt. Most of it appears in Trellis instantly once we receive the bill but we allow 5 business days for QA.

2. **What is the potential for additional data to be included in future (e.g. contractors, projects)?**

Just point your invoices at us and we can capture anything really. For behind the meter generation, we would seek an automated data file perhaps at a monthly resolution. Keep in mind we get all the feed in off the invoice.

3. **What are the implications if a shared platform is entered but then members pull out in future?**

The way we would set it up is everyone has their own inventory file, but data can be aggregated in the back end, if they want us to do some group comparison reporting etc. They would own their own data, so if they want to leave they can at anytime and take their data with them.

4. **Please discuss options for privacy between councils; is it possible to achieve privacy on a shared platform?**

Yes.

5. **Councils advise that if indicative costing has not yet been provided, the effort should be made to do so prior to presenting.**

[Redacted] including on-boarding

Appendix E: Azility Proposal

AZILITY

SMARTER ENERGY MANAGEMENT

UTILITY DATA MANAGEMENT SYSTEM

AZILITY

iAccelerate
Innovation Campus
Squires Way, North Wollongong
NSW 2500 Australia

1300 721 113

info@azility.co

www.azility.co

CONTENTS

OVERVIEW AND HISTORY OF AZILITY

Azility was established in 2006 as Planet Footprint and registered as a corporation in January 2007. We have been in business for 12 years in Australia. Initially our services were aimed at helping Local Government Agencies participating in ICLEI's Cities for Climate Protection program to collect and manage emissions data generated from corporate activities. As of April 2019, Planet Footprint rebranded to Azility.

Since that time Azility has expanded its services to help over 120 Australian Councils, 15 State Government Agencies, 30 US Cities, as well as Universities and Aged Care Facilities, to become smarter users of energy, water and fuel through our unique combination of software and service.

Azility has grown and innovated to meet the needs of modern local government. Customers asked us for integration of interval, billing and asset data in a single solution and we responded. Since 2012 Azility has launched 4 major products:

- my.azility.co web portal which provides centralised and very easy-to-use monitoring and reporting aligned with asset and organisation structures.
- Meter Minder - collection, warehousing, reporting and alerting for interval data for grid electricity, renewable energy, water and many more.
- Azility Analytics - enterprise-wide business intelligence (BI) tools for customised reporting, charting, scheduling and ad-hoc data analysis, performed by your team or ours.
- Utility Control. A utility bill verification, approval and payment product. It is saving our customers hundreds of thousands of dollars in energy and water costs annually and providing unprecedented levels of accountability for energy and water usage and costs across all departments.

Azility's EDGE Managed Data Service provides the foundation required to maintain a consistent and reliable data stream for Council. Alongside and array of automated checks, Azility has a dedicated team of Data Operators that conduct daily, weekly and monthly checks on the data to ensure its integrity for our clients.

Azility is located within the UOW Innovation Campus, in iAccelerate, which is one of the leading business ecosystems in Australia.

Azility contributes directly to the provision of water and sanitation in developing communities worldwide through giving that is built into our financial model. Our most recent project has seen us contribute funds sufficient to implement a water and sanitation project for a village of 249 people.

METHODOLOGY

PHASE 1 – SETUP

DATA MANAGEMENT PLAN

Azility will create a Data Management Plan which describes how the historical and ongoing data will be collected and managed. It includes details of the type of data, sources, format and the owner responsible for collating and supplying the information to Azility.

At the commencement of the project, Azility will request Council's historical data so that our data managers can review the data for completeness, errors, duplicates and exceptions. We will then conform the data, to allow for consistent reporting and analysis. Once satisfied with the quality of this data it will be uploaded into my.azility.co. This data will be referenced as 'Client Supplied' so that in our downloaded Reports and datasets you will see clearly the source of data. This is important for auditing and transparency purposes.

For the Councils, Azility will set up ebilling for all utility accounts so that invoices can be read electronically and are accessible in my.azility.co. For accounts that are already billed using ebilling, this data can be auto forwarded from Council to Azility. The data management plan also documents the agreed delivery and formatting of ongoing data feeds.

If an invoice has not been issued by the supplier, either yourself or your dedicated Service Manager can manually add rows of data directly into my.azility.co. When a bill is issued, it will replace the row of manually added data.

DATA COLLECTION AND VERIFICATION

The my.azility.co portal is a central repository for all utility data, allowing Council staff from multiple departments to access and trust one source of data. It also manages the reporting and organisational specific information, relating to energy, water and emissions data. Users can analyse, interpret and manage consumption and costs for the entire organisation, individual assets and utility accounts.

Azility has extensive experience handling utility data. We handle a variety of billing data formats. The most efficient way of collecting data is by receiving the invoice as an e-Bill. During the setup phase, Azility requests a Letter of Authority from Council which allows for the collection of Utility Data from Council suppliers. Azility are experts in data collection and can complete this process without using valuable Council resources and staff time.

Once the data stream is activated and bills are being received, performance information is on our portal within minutes of the bill being sent by the Supplier. This is done without interrupting the accounts payable process. Azility accomplishes this using EDGE methods, which are systems to electronically receive and read utility bills. We have over 100 EDGE methods in production which we have developed since the adoption of email billing. As well as this there are production EDGE methods for all energy and fuel suppliers, so if/when Council churn to a new utility, Azility will seamlessly transition the data collection to your new suppliers.

By collecting data through actual invoices, you will not have delays in receiving performance information, meaning you're able to act on anomalies or problems as soon as the bill arrives. The invoices are also uploaded and stored in my.azility.co, giving anyone in the Council easy access to utility bills.

my.azility.co also allows for the live upload of interval data from smart meters, utility suppliers and meter data agents, using the Meter Minder module.

Azility's EDGE Managed Data Service provides the foundation required to maintain a consistent and reliable data stream for Council. Alongside and array of automated checks, Azility has a dedicated team of Data Operators that conduct daily, weekly and monthly checks on the data to ensure its integrity for our clients.

HISTORIC DATA

Azility has the capability to upload historic data based on monthly and quarterly accounts for all assets and meters. At the commencement of the project, Azility will request the Organisation's historical data so that our data managers can review the data for completeness, errors, duplicates and exceptions. We will then conform the data, to allow for consistent reporting and analysis. Once satisfied with the quality of this data it will be uploaded into my.azility.co. This data will be referenced as 'Client Supplied' so that in our downloaded Reports and Datasets you will see clearly the source of data. This is important for auditing and transparency purposes.

This data can come from 3 main sources:

- Utilities (e.g AGL, ERM, Origin etc)
- Existing Council records
- Previous suppliers (e.g Envizi)

ASSET MAPPING

Azility uses a methodology called Asset Mapping to assist organisations in managing their asset register. This allows organisations to structure their data in accordance with reporting needs.

To set your organisation up on my.azility.co in line with this model we will complete the following Asset Mapping process:

1. Work from the top down to:
    - Set up the organisation structure as a hierarchy of Organisation Units.
    - List the Assets known to exist under each Organisation Unit.
    - List the services (i.e. utility Accounts and Connection Points) known to exist for each Asset

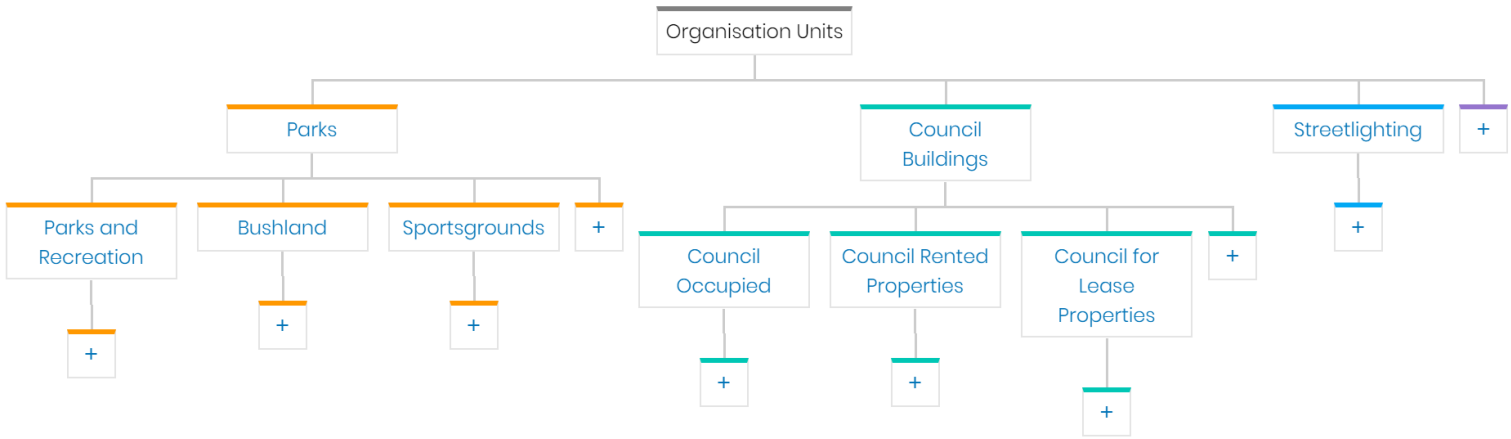
2. Work from the bottom up to:
    - Assign every known Asset to an Organisation Unit
    - Assign every known Account to an Asset

3. Assigning a Person responsible for every Organisation Unit and major Asset.

my.azility.co has several fields that allow users to map their data according to pre-existing conventions. Once this has been completed, an organisational chart is available to show users the structure of Council's data.

my.azility.co allows for the Organisation to rename Assets and Organisation Units based on Council's naming

Manage your Organisation Unit Hierarchy



conventions within the site, allowing for easy identification and reporting. These details can be updated by Council staff as required through the Assets Information Page on my.azility.co.
This page allows users to edit the following information:

- Name
- Asset Code
- Leased/Not Leased
- Functional Classification

- Address
- Organisation Unit
- Responsible Users

Further to this, users can also edit details at the Connection Point level, including:

- Assigned Asset
- Account Type
- Account Name
- Open Date
- Connection Point Description
- Main Budget Code
- Project Code
- Address
- Meter Details

Edit Details of Additional Administration Building

Asset Info

Name
Additional Administration Building

Asset Code
Asset Code
Some words here

Leased
No
Is this asset leased?

Functional Classification
Security Lights

Address

FULL ADDRESS

Address Line 1
Council Admin Street

Address Line 2
Council Sector

City / Suburb
Anywhere Town

State
NSW

Post Code
2556

Country
Australia

Asset Allocation

Organisation Unit
Corporate Services
Allocate organisation units to this asset

Responsible Users
× Dean Jackson
These users will be able to see a simple Performance Summary

PHASE 2 – IMPLEMENTATION AND TRAINING

Once all data streams have been set up, and the Mapping and Meaning has been completed, Azility will add Councils users to my.azility.co. To assist Azility Service Managers in delivering the best possible service to their organisations they require key contacts at Council to take responsibility for:

1. Notifying Azility of upcoming supplier changes, including changing to a new provider or closing/opening utility accounts – Azility can also provide guidance and example internal procedures to assist Council in Connection and Disconnection of accounts.

2. Negotiating internally with stakeholders (from Finance, Assets, Sustainability and other Departments)

3. Assisting with the up-front mapping and meaning projects through the provision of information such as from GIS, Asset Management or Finance Management systems (so we can best link utility accounts up to the correct address)

4. Maintaining asset mapping information over time

5. Keeping information up to date including the Projects entries in my.azility.co and other data relating to emissions reporting

6. Setting Business Rules and alerts in my.azility.co and managing events

7. Processing utility invoices in my.azility.co including the bill approvals, the creation of payment files and uploading those files into Council's Finance system

8. Adding new users to my.azility.co

9. The consumption at a facility

Council will ultimately be responsible for the maintenance of the Mapping and Meaning and notifying Azility of changes which will affect the payment of suppliers. Azility will take responsibility for the collection of utility invoices, electronically, from the supplier.
The access levels for users include (from highest to lowest):

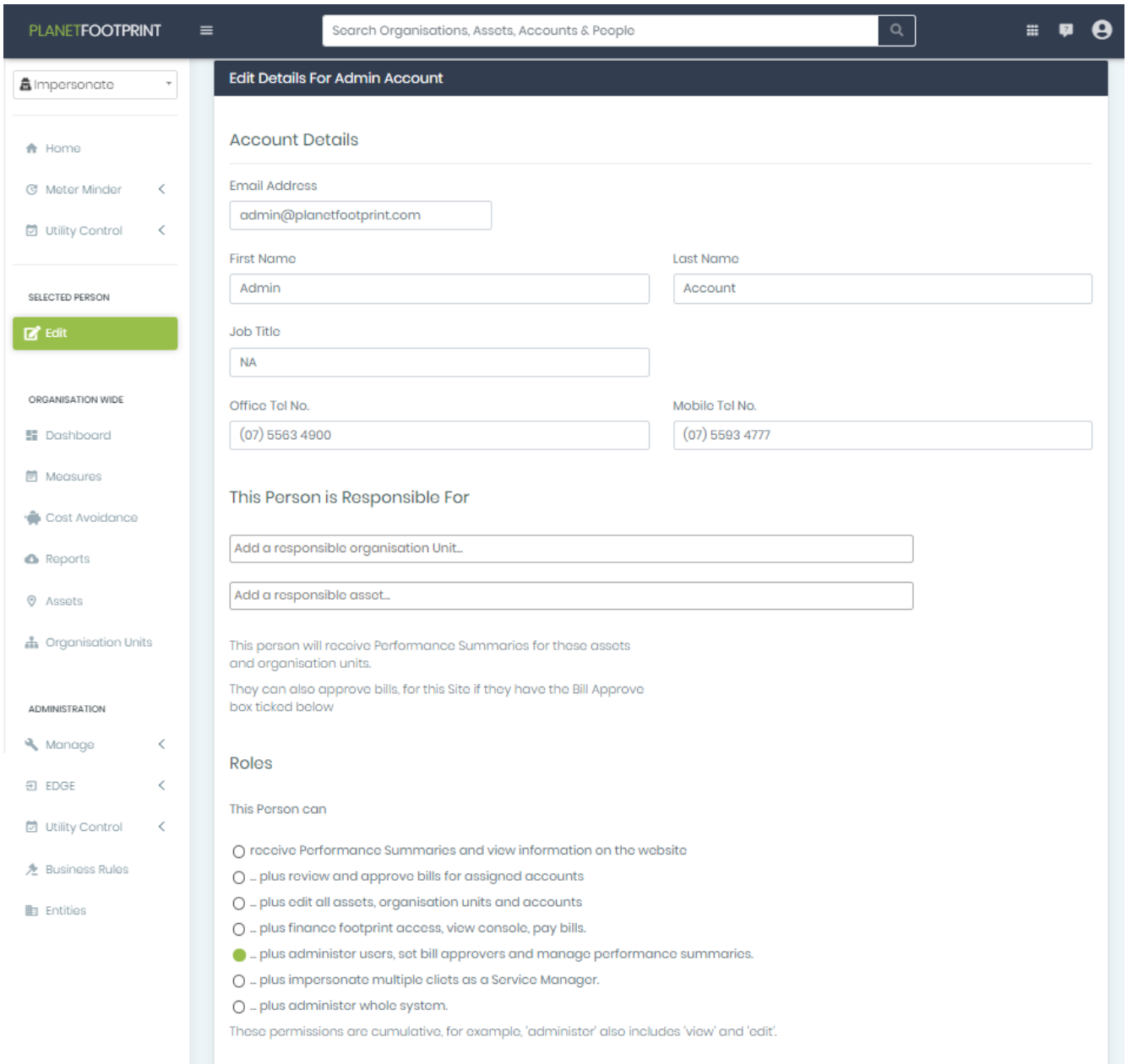
1. Administer users, set bill approvers, create and manage push reports and performance summaries, add new users to the site and disable access to others

2. Finance Footprint access to view the bill console and pay bills.

3. Edit access, allowing the person to edit assets, organisation units and accounts. This access does not allow users to manage performance summaries, set access levels for others or create new users in the system

4. Review and approve bills for accounts assigned to that person

5. Receive Performance Summaries and push reports via email and view information on the website



Administrator Training will be delivered to 4 users as part of the set-up and project implementation. Administrator Training covers the configuration of the platform. This is an interactive session. This session also includes follow up coaching and mentoring after the formal delivery (approximately 1 hour per person).

BI Customised Report Training will be delivered to staff who will be using our BI customised reporting tool. Staff will learn to customise and generate dashboards and reports within my.azility.co.

There will also be informal training delivered during the project implementation during the routine project status meetings.

After project implementation and once the system is operational there will be ongoing training and support delivered.

Training involves:

- Advanced Monitoring, Analysis and Reporting (hands on and activity based) - 3 hours on site). This module covers reporting and analysis.

- Site and Line Manager Training (hands on and activity based) - 3 hours on site. This module covers orientation of the system and basic reporting.

Azility's trainer has 5 years' experience in energy and water invoice management, the Azility software and local government reporting needs. Participants are provided with a workbook for them to complete activities and record learnings. Training for new Council staff can be delivered by Azility for a fee. The module that they undertake will be determined by their position in Council. If they are going to take on an administrative role we may suggest higher level training (Administrator Training).

Site and Line Manager training is delivered to organisations that are diverse and have differing needs. Each manager will learn how to use their part of the website and will be tailored to the individual. Participants will learn how to use my.azility.co to understand and improve their assets operations and financial performance, as well as ways to manage utility costs. While the training is tailored to the individual and their skill sets, examples of training sessions include:

- Navigating my.azility.co

- Reporting and Monitoring: Learn the basics of how to see your performance

- Advanced Data Analysis: This is scenario-based learning and participants are required to come up with their own user stories and a trainer will take them through ways to configure their own reports

- Configuring Business Rules for meter data for event management

Participants work through a training program and are given access to documentation which takes them through the steps in every activity. Participants can keep this documentation or access it via my.azility.co help pages.

Azility has an extensive library of Help documents that are easily accessible from my.azility.co. This is a living repository of information and kept up to date by our Management Team, meaning you will always have access the most up to date information. Anyone in the organisation with a log into my.azility.co can access and search this database for supporting documentation.

PHASE 3 – ONGOING SUPPORT AND SERVICE

Azility's Service Team is highly valued by our clients. Based on the Azility modules your organisation subscribes to, you will be allocated a dedicated Service Manager who is skilled in that area (for example if you sign up with Meter Minder, our interval data module your Service Manager will be an expert in data analysis and energy management at the facility level). If you have multiple needs in different areas, we divide this work up between our Service Managers, but you will always have one key contact.

We have a Professional Services Team made up of energy and water management, sustainability, data and finance experts who work with clients all over Australia and the United States. Their primary responsibility is to ensure you are achieving results and meeting organisational strategic outcomes.

If it is a request that can't be handled immediately or requires additional resources at Azility, it will be logged in our CRM system which issues ticket numbers. If necessary, tasks are assigned to different Azility staff members and progress on the issue is recorded.

When a request is made you will be responded to immediately to acknowledge the request and our Service Team will tell you how long the request will take to action. Time is tracked in this CRM database. Our Service Team can be contacted during business hours on 1300 721 113 or support@azility.co

Support hours are based on the modules each Council is subscribed to.

Module	**Hours**
Core	4
Environmental Modules	2
Meter Minder	1
Utility Control	20

Based on Azility's experience with Local Governments of similar size to the Councils, these included hours will satisfy the requirements outlined in this Quote.

Because Azility collects environmental data from the invoices, we also provide general consultancy services to all our clients, assisting with data interpretations and sustainability solutions. Support is administered through several channels:

- Phone support
- Email support
- On site visits
- Quarterly Performance Reviews (QPR's)

QUARTERLY PERFORMANCE REVIEWS

An important service delivered by your Service Manager is Quarterly Performance Reviews. Every quarter we look at your data to review anomalies, savings and what opportunities exist for Council.

In preparation for a Quarterly Performance Review, your dedicated Service Manager will have analysed Council's recent data and compared it to historical information and will notify you of anomalies in consumption, bills and mapping and meaning.

Other potential cost saving anomalies that your Service Manager will discuss with you include:

- Increases / decreases in your top consuming assets: Your Service Manager will highlight causes, activities or events that may have occurred to cause a change in consumption. These explanations are recorded

- Review of the properties that have had energy efficiency upgrades and whether they are performing as expected

- Electricity unit cost: are there sites that pay more for electricity compared to others

- Orphaned accounts: Are there new accounts that have been received on the collective invoice that have no Mapping & Meaning information? Are these Council's accounts? Should Council be paying for them?

At the end of the Quarterly Performance Review, your Service Manager will email you a list of actions to take to resolve the anomalies that were detected.

Events that have occurred which impact negatively on consumption and therefore Council's targets, can be entered into the system so that on performance charts you're able to clearly see the timeline of energy consumption and other activity which affects performance.

In addition to ongoing support and service, Azility can provide in depth Service Consulting for a number of different projects including:

- Weather Impact Analysis
- Benchmarking and Energy Efficiency
- Intensity Reporting
- Mapping & Meaning projects
- Tariff Review
- Demand Review
- Energy price rise analysis
- Energy audit and report
- Project verification
- Forecasting
- Customised reporting

REPORTING AND AZILITY ANALYTICS

Azility clients have access to multiple reporting methods. my.azility.co has to ability to generate standardised reports including:

- Organisation Footprint Reports: Available to run and download at any time from my.azility.co. Footprint Reports such as the Energy Footprint Report show how the organisation is performing since the baseline year and gives graphics on the performance in terms of percentage change over time, quarterly break down of consumption and costs and annual totals. These Reports also detail the fuel mix for your organisation. Footprint Reports are also available as Property Footprint Reports which can be quickly sent to Facility Managers.

- Organisation Anomaly Reports: This report gives details about unusual consumption patterns such as unusual decreases in consumption, unusual increases in consumption, sites that have no use but are incurring service fees and sites that appear to be based on estimated meter read.

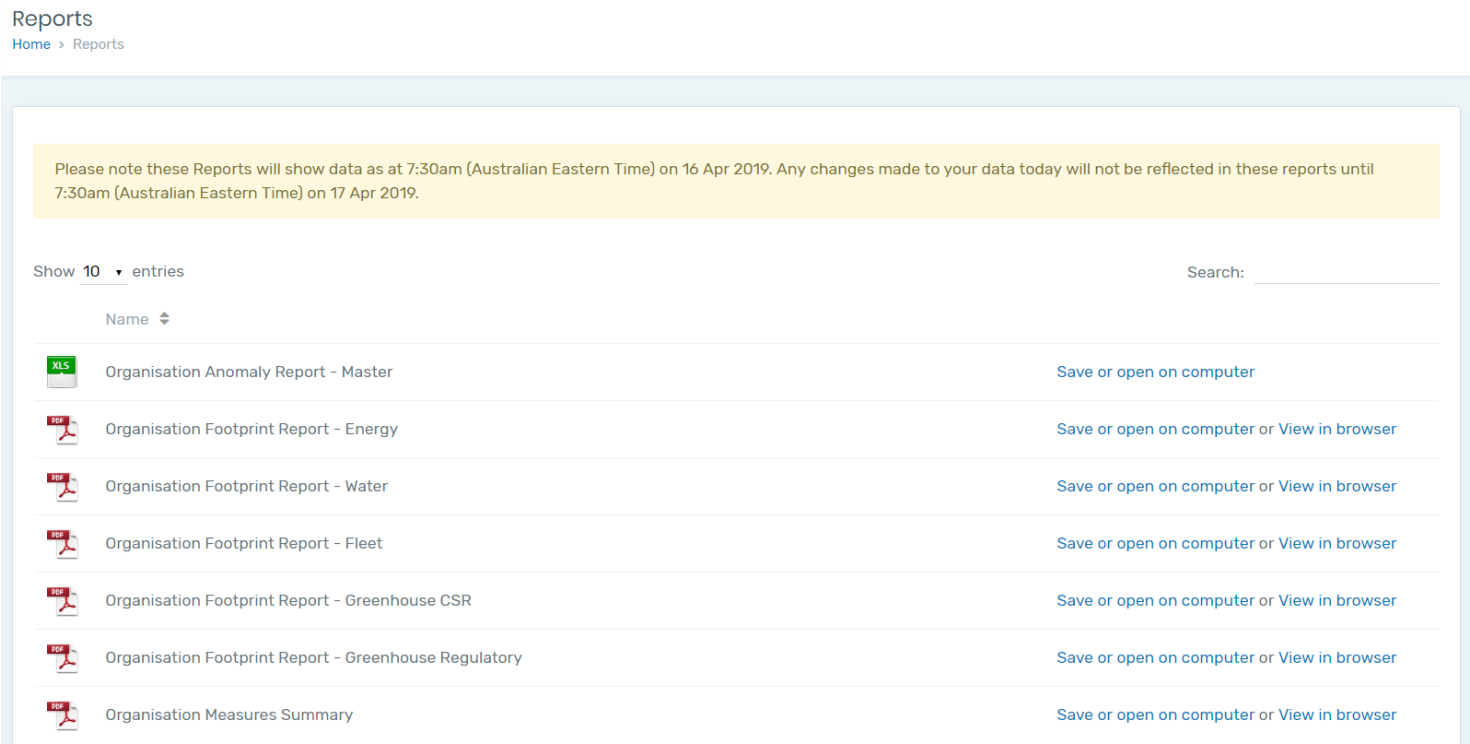
- Performance Summaries: Slide shows of an asset or departments recent performance sent to managers via email

- Service Detail Data: Accrued monthly data per account

- Invoice Detail Data: Unformatted invoice data

- Estimated Meter Reads: An excel report showing estimated meter reads by your provider

Reports are available at the Asset level, departmental level of for the whole organisation.

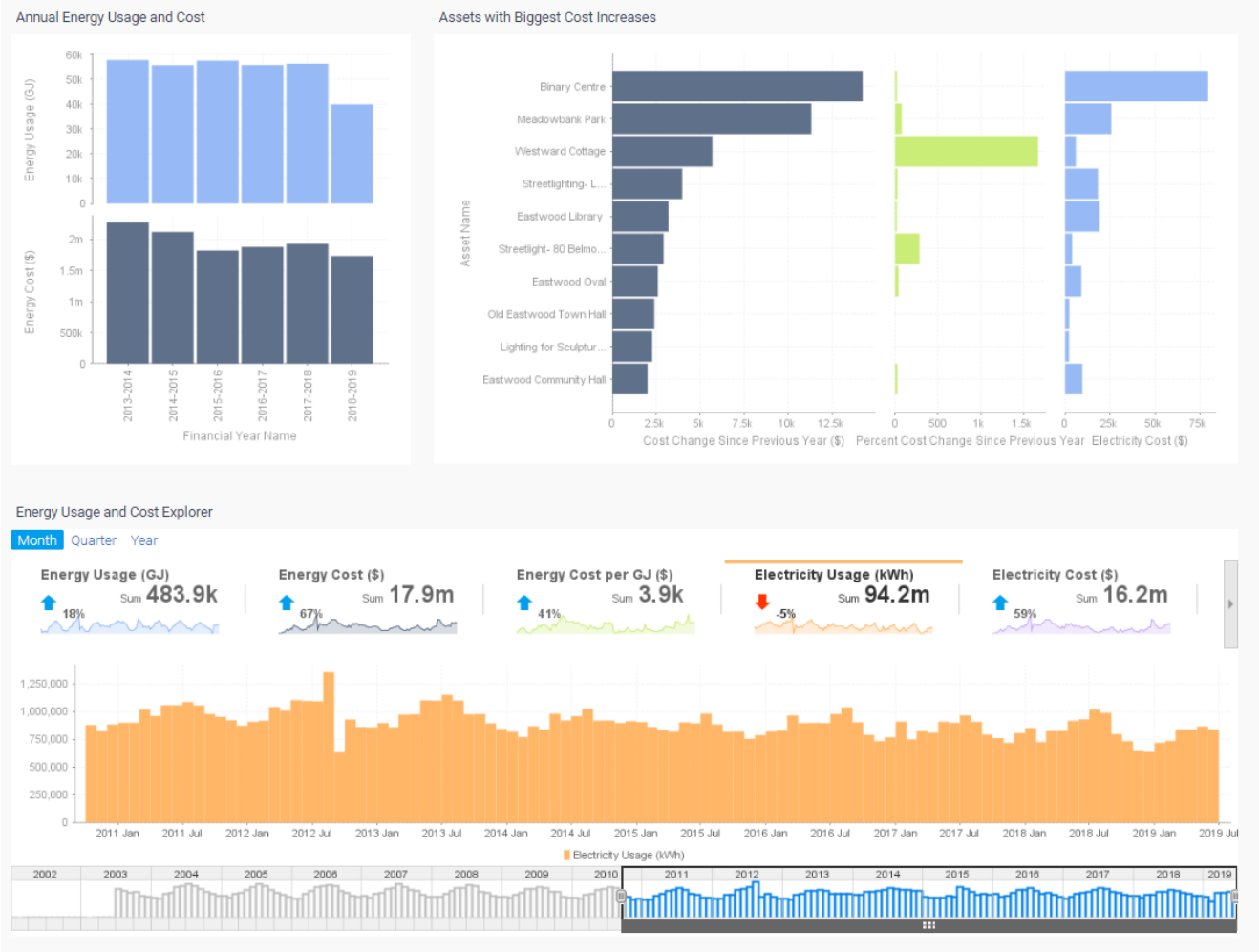


In addition to these standardised reports, Azility has the capacity to provide customised reporting using the Azility Analytics Suite. The Azility Analytics suite is powered by Yellowfin Business Intelligence platform (https://www.yellowfinbi.com). The Analytics suite is used for report customization. The platform uses a report builder to create both simple and sophisticated analytical reports. This platform can create the following charts:

- Analytical (including scatter plot, treemap, histograph, heatmap)
- Area Charts
- Pie Charts
- Bar Charts
- Column Charts
- Combination Charts
- Line Charts
- Meter Charts

Other chart types available, but not relevant to utility data include

- Financial Charts
- Maps



Azility's Analytics suite gives clients the flexibility to customise its reports and dashboards to suit the needs of the user or as requirements within the organisation change. Azility does this by following the User Story methodology.

USER STORY METHODOLOGY

Typically, when designing reports, procedures, and performance information for your staff, we stay focused on describing the business processes and outcomes using user stories.

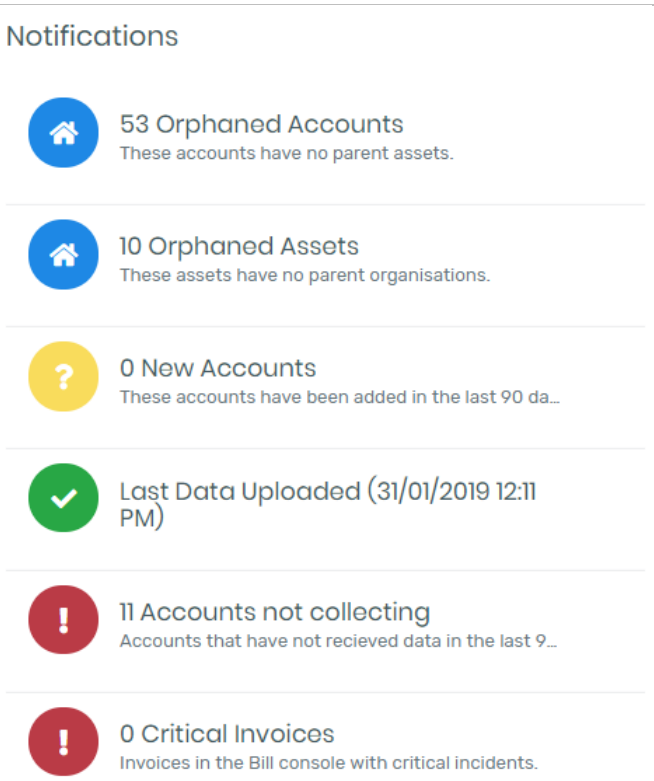
An example of the creation of a typical user story is framed using the three criteria below:

1. As a sustainability manager
2. I need to know what our annual scope 1 and 2 emissions are
3. In order to know if we are on track to meet our organisational reduction targets this year

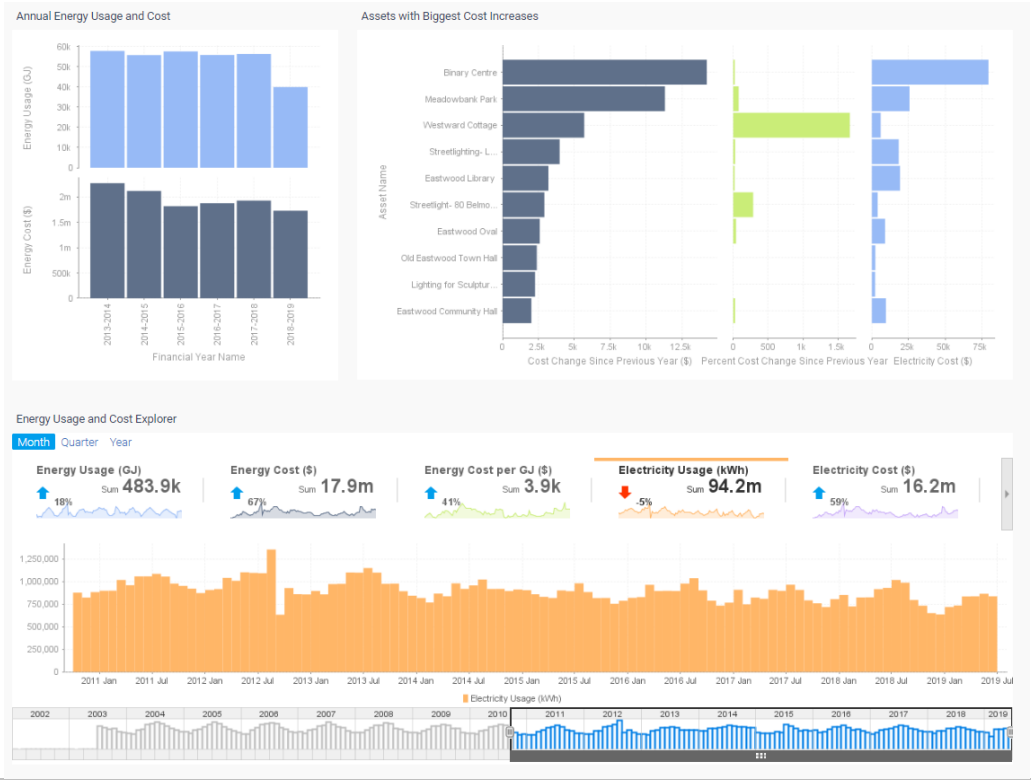
There is no use sending that Sustainability Manager a summary of the electricity invoices paid last quarter. We divide these user stories into three categories; monitoring, analysis or reporting. This ensures that the user achieves the outcomes from the three criteria above and they receive what they need quickly and efficiently. Examples of different questions that relate to each category are below:

Category	Example question	Where to look
Monitoring	"Will the next water bill for the pool will be lower after we fixed the leak last quarter?" "I received this SMS last night. What happened to cause a spike in consumption?"	A predefined dashboard in my.azility.co where you can watch for changes. Alerts are a special sub-category of monitoring. By alerts we me mean sending a user an email or text message to tell them that an incident has occurred, for example, that water consumption has just spiked, most likely due to a water leak. Alerts can be set up on different connectors and will send notification when the business rules have been breached.
Analysis	"I would like to know how energy efficient the buildings in the Parks Department are compared to the Community Services Department. I'll do this by looking at energy consumption per m2. This will help me prioritize which building types to tackle first with energy efficiency upgrades" "What impact has weather had on our energy performance this quarter?"	Explore the data and build your own analysis report from scratch using Azility Analytics Add external data sources to your analysis and overlay this with your performance
Reporting	"What was Council's total scope 1 + 2 emissions last year?"	A standard report downloaded by the Organisation from my.azility.co. Or, send this report out on a schedule by using the Broadcast feature in our Analytics suite.

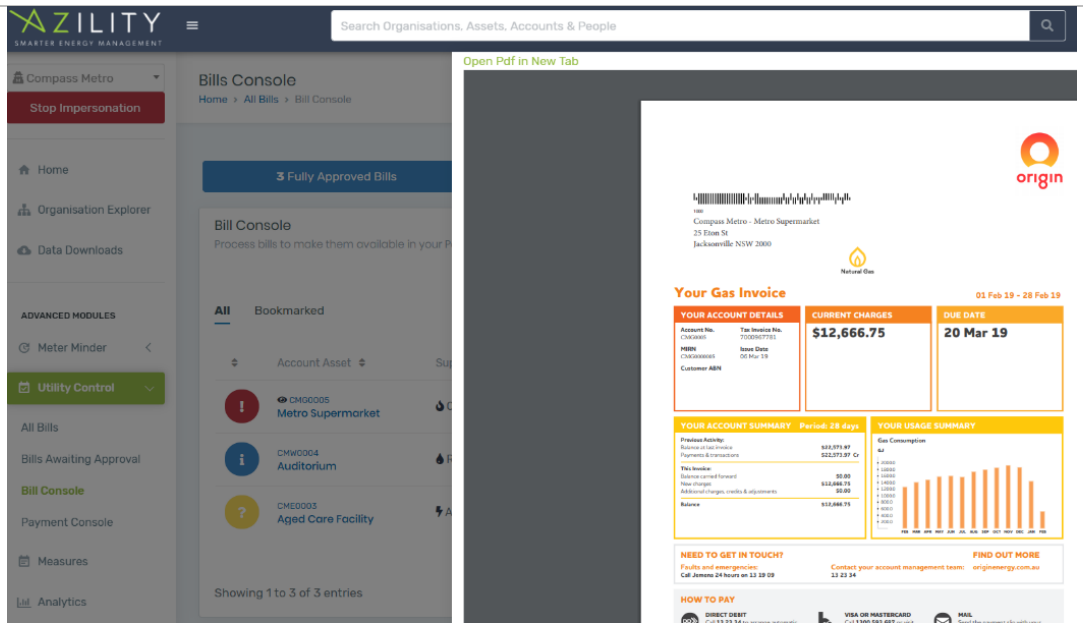
Requirement	Azility Example
Collection of standard/common reports out-of-the-box	The following standard reports are currently available to our clients: Footprint Reports: Available to run and download at any time from my.azility.co. Footprint Reports such as the Energy Footprint Report show how the organisation is performing since the baseline year and gives graphics on the performance in terms of percentage change over time, quarterly break down of consumption and costs and annual totals. These Reports also detail the fuel mix for your organisation. Footprint Reports are also available as Property Footprint Reports which can be quickly sent to Facility Managers. AZILITY SMARTER ENERGY MANAGEMENT ENERGY **Anywhere Council** Organisation Footprint - ENERGY (not including street lighting) To End of Financial Quarter 3, 2018-2019 AZILITY Ref: LG Organisation Footprint Energy AAN 2019Q1 Run on: 16 Apr 2019 at 11:13 Page 1 of 5 © 2019 Azility www.azility.co E&OE Anomaly Reports are common reports that can be run and downloaded at any time by staff. This report gives details about unusual consumption patterns such as unusual decreases in consumption, unusual increases in consumption, sites that have no use but are incurring service fees and sites that appear to be based on estimated meter read.



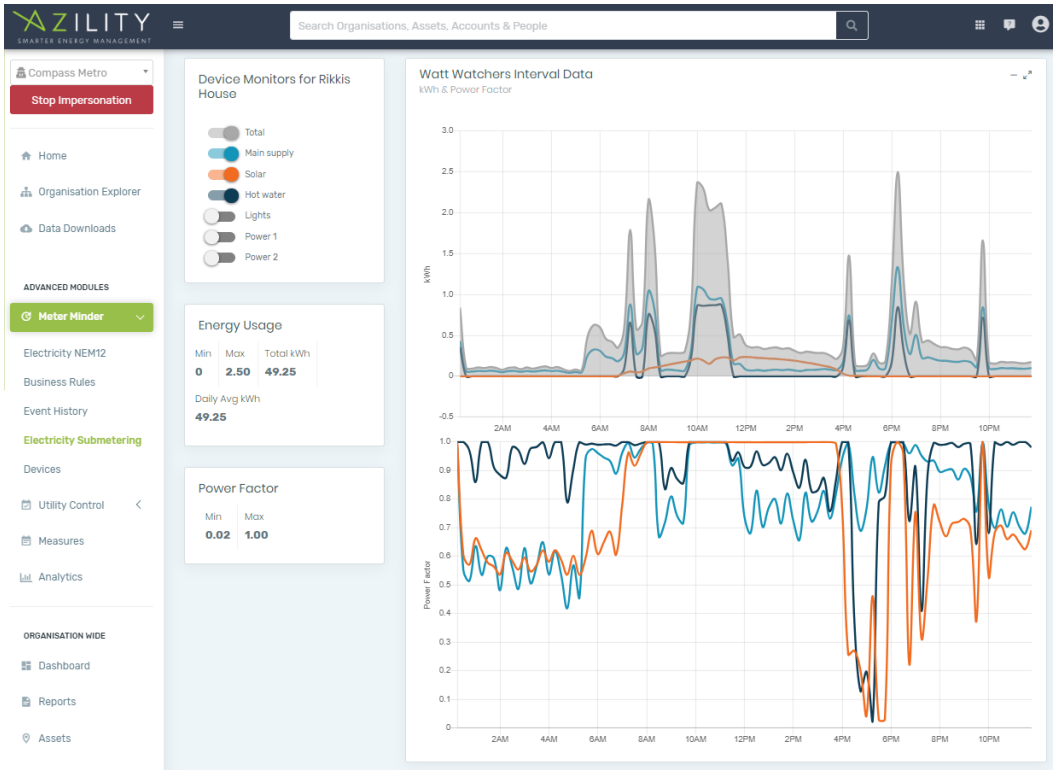
Dashboards within my.azility.co are standard across the whole organisation (unless they have been custom built) and display information relating to performance at the same time in the previous year. These dashboards are visually the same across departments, sub-departments and assets.



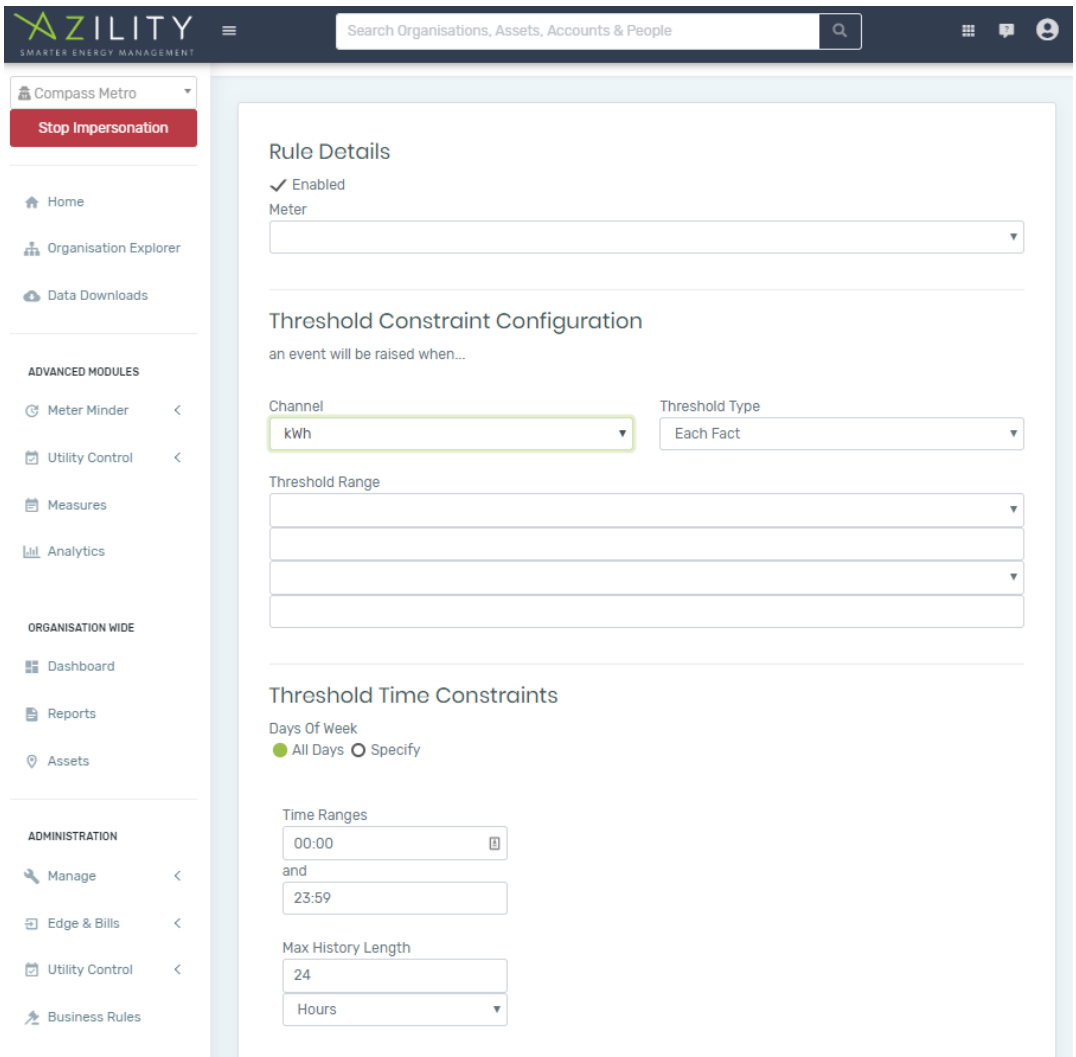
	Quarterly Performance Review reports are common reports customised to your organisation. Your Service Manager will consistently provide this same information to you, so you do not have to re-learn the report every time you receive it.  
Drill-down and interactive capability	Within my.azility.co you can drill down to an actual invoice minutes after the supplier has issued it. You can do this from many different screens such as the Account Performance screen or the Bill Console. You can do this by looking at an Assets energy or water performance and reviewing the Collected Data for that account. Each instance of data will link through to a PDF viewer of the invoices used to collect the data.

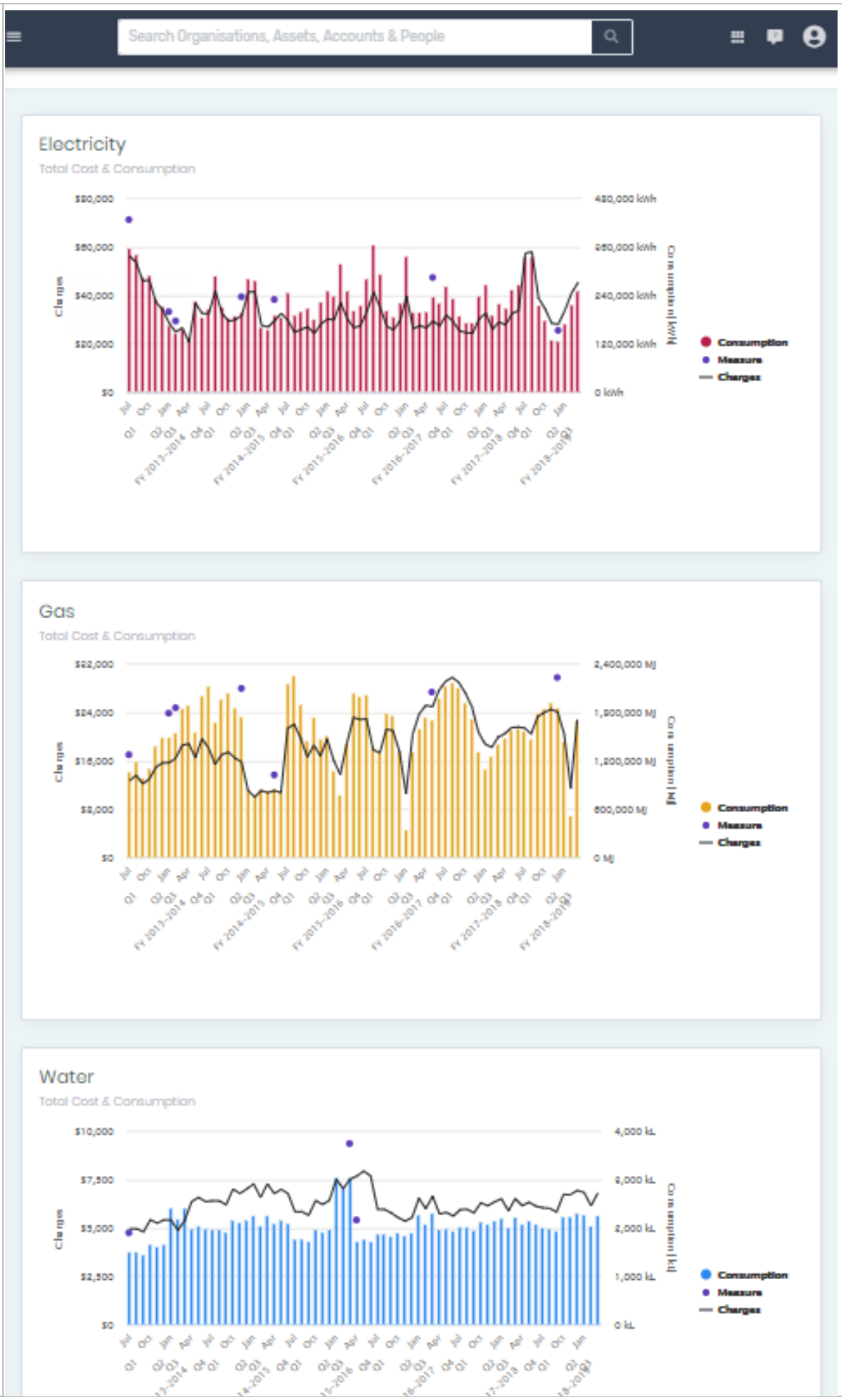


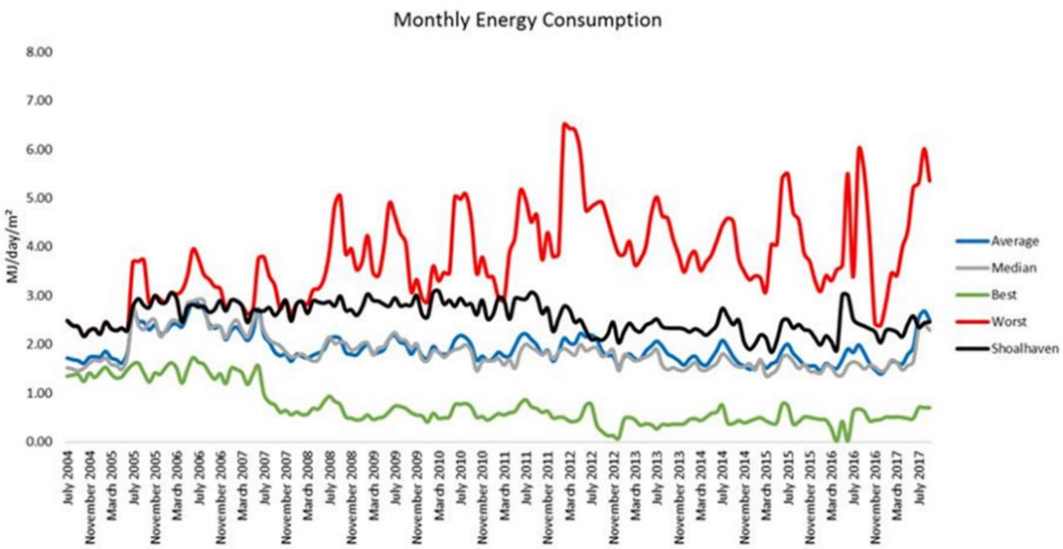
Using the Meter Minder product, users can drill right down to a 15-minute increment of energy or water consumption. Drilling down adjusts your graphs to reflect the level you are looking at (minutes, hours, days, months, years), allowing you to interact with this data easily and zoom in or out to the data in context with periods before and after the one you are looking at.

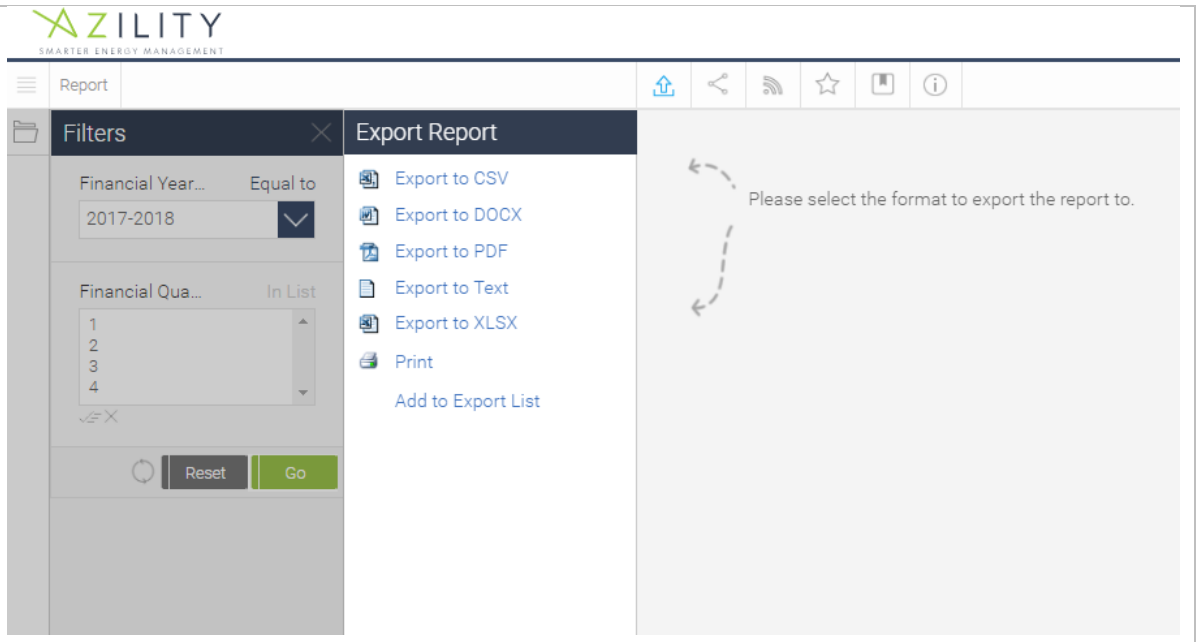


To make sure information is monitored and you're not caught off-guard with higher energy or water bills, you are able to set thresholds on these increments, so you are notified by SMS or email as soon as the

	consumption patterns do not seem right. 
Historical reporting	Historical reporting is available within my.azility.co, or you can request information from your Service Manager. Formats that historical information is available in graphs, PDF reports, excel reports or Performance Review reports. For visual purposes, property dashboards display data back to the 2011/2012 financial year, however, older data is very easy to access.


Search Organisations, Assets, Accounts & People
Electricity
Total Cost & Consumption
Gas
Total Cost & Consumption
Water
Total Cost & Consumption
Consumption
Measure
Charges

Comparative analysis (month-month, year-year etc)	Azility places a large focus on 'Mapping & Meaning' data. Because of this, comparative analysis such as year to year or groupings of similar facilities and assets becomes very easy. Using our Analytics Suite - enterprise-wide business intelligence (BI) tools, customised reporting, charting, scheduling and ad-hoc data analysis, can be performed by your team or ours. Grouping assets can be done based on functional classification, departmental responsibility, a time period, contract or other attributes. Comparisons may be on energy consumption/costs, water consumption/costs or emissions. Additional data layers can be added for more detailed benchmarking. Azility refers to these additional layers as 'indicators' and include thing like floor area, FTE, operating hours so that a property's performance can be compared to other similar sites that the organisation manages. Commonly used indicators include: • per m2 • per FTE • per patron (swimming pool, library) • per Hectare (irrigation) • per m3 (pool heating) These types of projects require detailed scoping and negotiation on the specific business outcomes the organisation wishes to get from comparing performance to outside organisations. These services are outside  the scope of the standard subscription and are delivered as consulting services, overseen by our Service Delivery Manager.
Exporting of reports to various formats.	Performance data can be exported at any time from my.azility.co in the following formats: • Microsoft Excel • CSV • PDF view



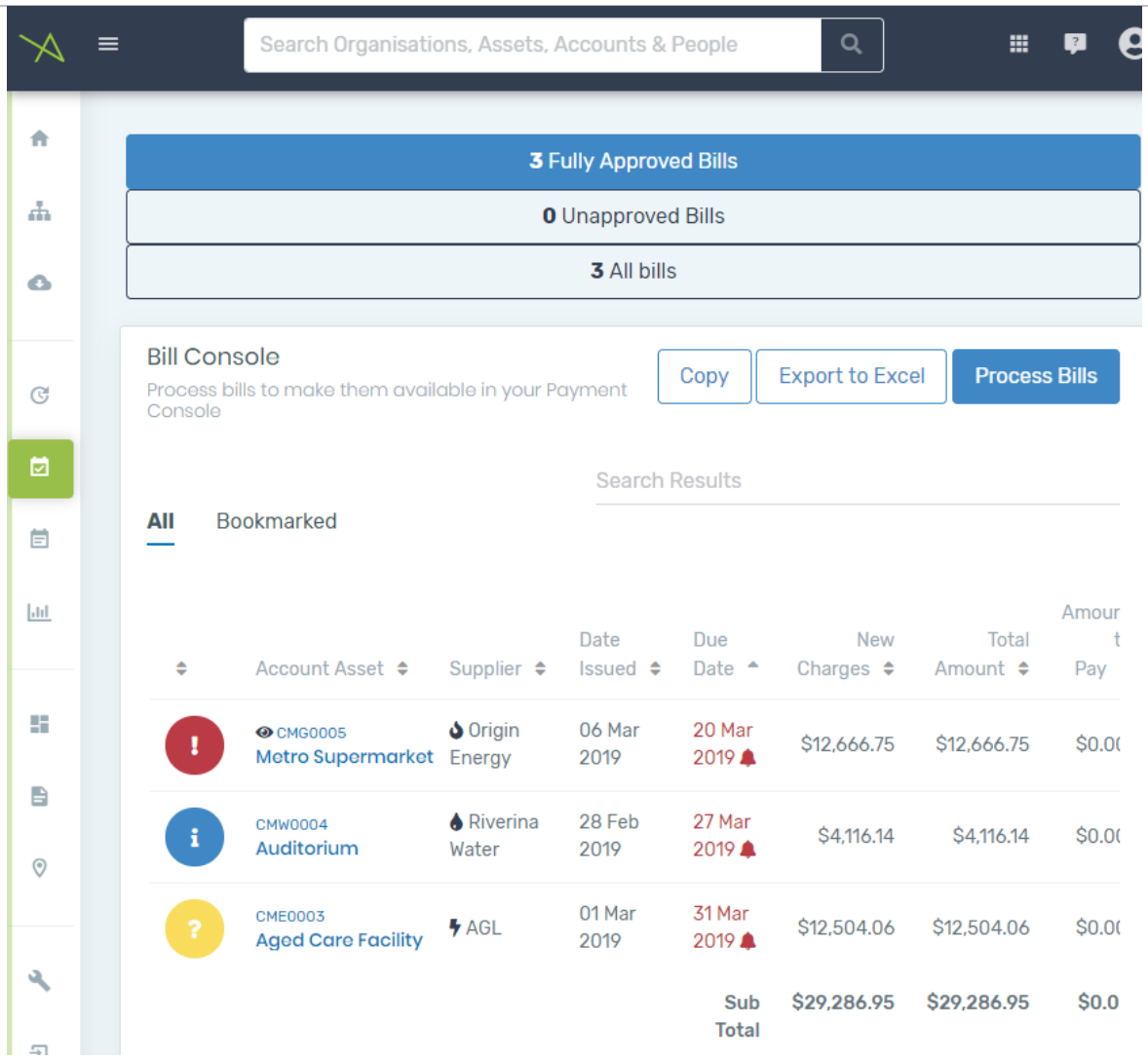
You can customise the data that you download by selecting the date range, and by selecting where in the organisation hierarchy you would like to download the information (you can download from the asset level, department level or the whole organisation)

If subscribed to the 'Utility Control' Module, payment information can be downloaded from my.azility.co in

- Microsoft Excel
- CSV
- PDF view

From the Bill Console, you are also able to export all the invoice information before it is paid such as:

- Total Charges
- New Charges
- Approved amount
- Supplier
- Date and time the invoice was issued
- Due date of the invoice
- Decision by Client (Pay new Charges or Do Not Pay)



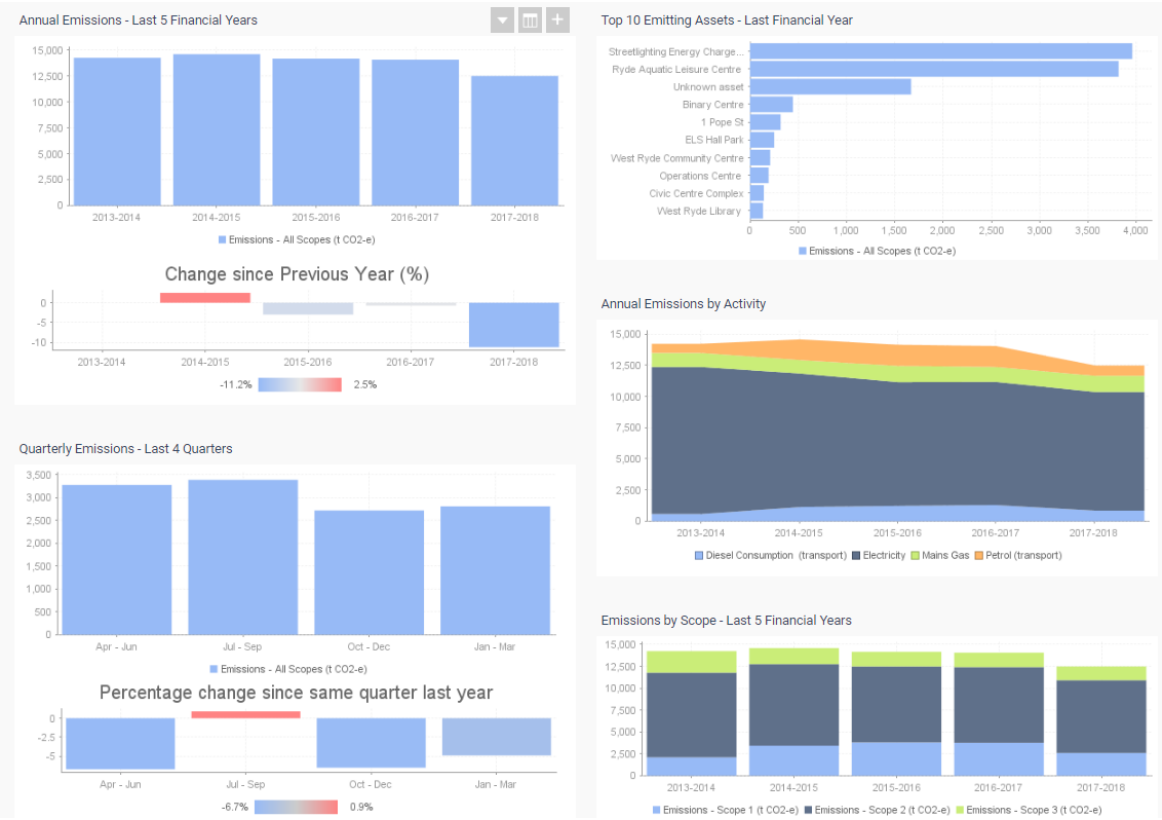
	A	B	C	D	E	F	G	H	I
1				Azility - Bills Console					
2		Account Asset	Supplier	Date Issued	Due Date	New Charges	Total Amount	Amount to Pay	Decision
3	7000967781	CMG0005 | Metro Supermarket	Origin Energy	06 Mar 2019	20 Mar 2019	12,666.75 $	12,666.75 $	0.00 $	Wait
4	28-Feb-2019	CMW0004 | Auditorium	Riverina Water	28 Feb 2019	27 Mar 2019	4,116.14 $	4,116.14 $	0.00 $	Wait
5	01-Mar-2019	CME0003 | Aged Care Facility	AGL	01 Mar 2019	31 Mar 2019	12,504.06 $	12,504.06 $	0.00 $	Wait

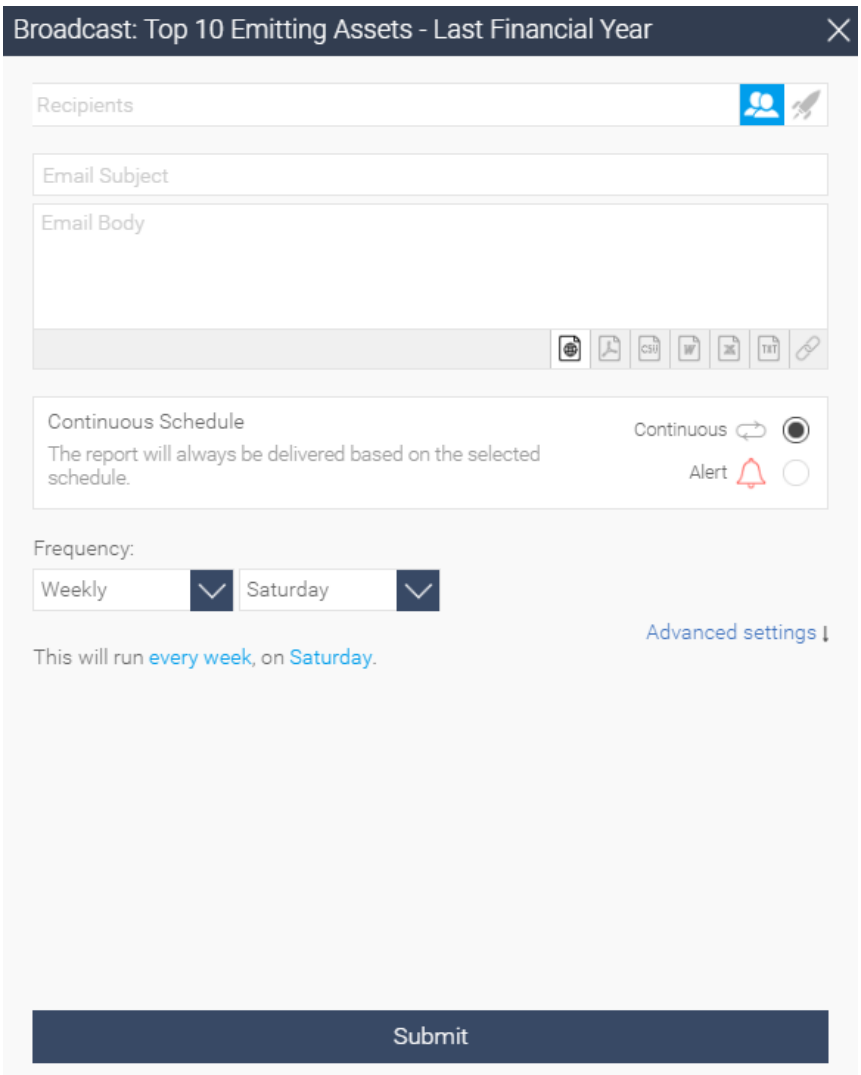
You can select which invoices you would like to see in this exported file by using the navigation and toggle features.

Customisable Dashboards

Dashboards can be fully customised. They are a way to enable a user to easily understand performance at a glance. A typical dashboard is designed with high-level reports that can drill down to more detail when required. For example, an Emissions Dashboard can show a snapshot of reports such as:

- Organisation-wide emissions by year
- Annual trend in emissions by sector
- Emissions by activity

	• Emissions by sector  A dashboard is made up of several Report Portlets, which is the area on the dashboard containing an individual report. In a dashboard, you can opt to see performance information as either a table of the data or a chart. This is enabled by toggling between the Chart and Table button on the Report Portlet.
Customisable Reports	Customised Reports can be broadcasted from the Analytics suite. Broadcasting allows you to send a specific report to one or more users, based on a defined schedule and set of rules. They are either personal broadcast (one specific user) or standard (a group of users).



Performance Summaries are standard Azility summaries that are sent out on a quarterly schedule. The frequency of this schedule cannot be changed.

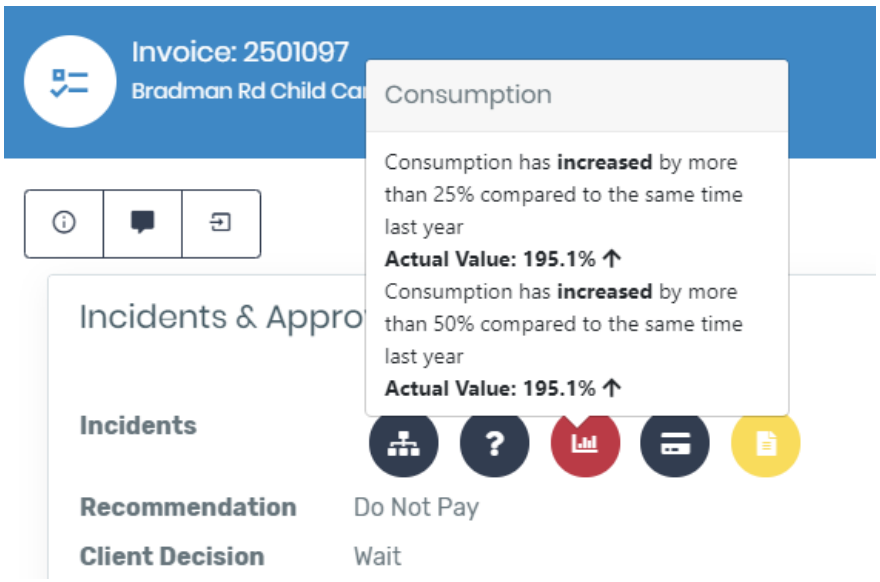
Raw Data

At any time during the contract, staff can access and extract business information from my.azility.co. This includes utility bills, data-sets, interval data and sub-meter data.

Datasets that can be downloaded from my.azility.co are Service Detail Data (this data is financially accrued to months and quarters), Invoice Detail Data (un-accrued data), Emissions Detail Data and Interval Data. There is a Reporting tool which allows you to select the date range you want to retrieve.

These datasets are connected to the Azility database so any new information that has been processed will always be available in these datasets. If you require the raw data that has been provided by a supplier, you can ask Azility to send you this information at any time.

Daily backups of essential business information are taken to ensure that the organisation can recover from a disaster, media failure or error. Our backup cycle is fully documented. Any 3rd parties that store organisation information must also be required to ensure that the information is backed up.

	We store business continuity documentation, including backup logs and break glass documentation at off site and branch office locations. Azility's production infrastructure sits within Amazon Web Services, the availability of which is market leading. Azility performs regular restores of information from backup media to ensure the reliability of the backup media and restore process.
Data Overlays - Weather	Azility provides weather impact analysis and performance anomaly management, to explain temperature-sensitive consumption vs. temperature-insensitive consumption. Azility uses average monthly temperatures for a location, Heating Degree Days (HDD) or Cooling Degree Days (CDD). This data can be used to normalise consumption through analysis and identify genuine anomalies in asset performance. Azility has existing EDGE Methods to capture and analyse Bureau of Meteorology (BOM) data in the context of energy and water performance at the asset level. In the Data Management Plan, Azility will have the organisation confirm the locations of the weather stations that need to be used for each site. The Rainfall and temperature data can be analysed within custom reports using Azility analytics or analysed by your Service Manager as a consulting project. The explanation of anomalies related to weather can be entered into the Projects database so that weather-related events become part of an asset's performance timeline.
Alerts	If subscribed to the 'Utility Control' Module, using the 'Bill Console' in my.azility.co, users will see any issues that have been flagged for an account. 40+ automated tests are run on every invoice that Azility receives. If any of these tests fail, the account will be flagged with a description of what has failed. An example of this would be if an asset has been prematurely handed over to a department. Because these sites will not have any 'Mapping and Meaning' data associated with them, Azility will flag them as an 'Orphaned Account', meaning that it currently does not belong anywhere within the organisation. This simple flag will allow users to know when these issues occur. Other flags within the 'Bill Console' include: • Consumption anomalies • Estimate issues • Tariff issues • General bill verification 

	Azility also provides an 'Anomaly Report' which can be **downloaded at any time** from my.azility.co. Automated weekly reminder emails can be sent to staff to remind them that they have invoices waiting to be paid. These emails contain the number of bills to be approved and the total amount owing.

MODULE DESCRIPTIONS

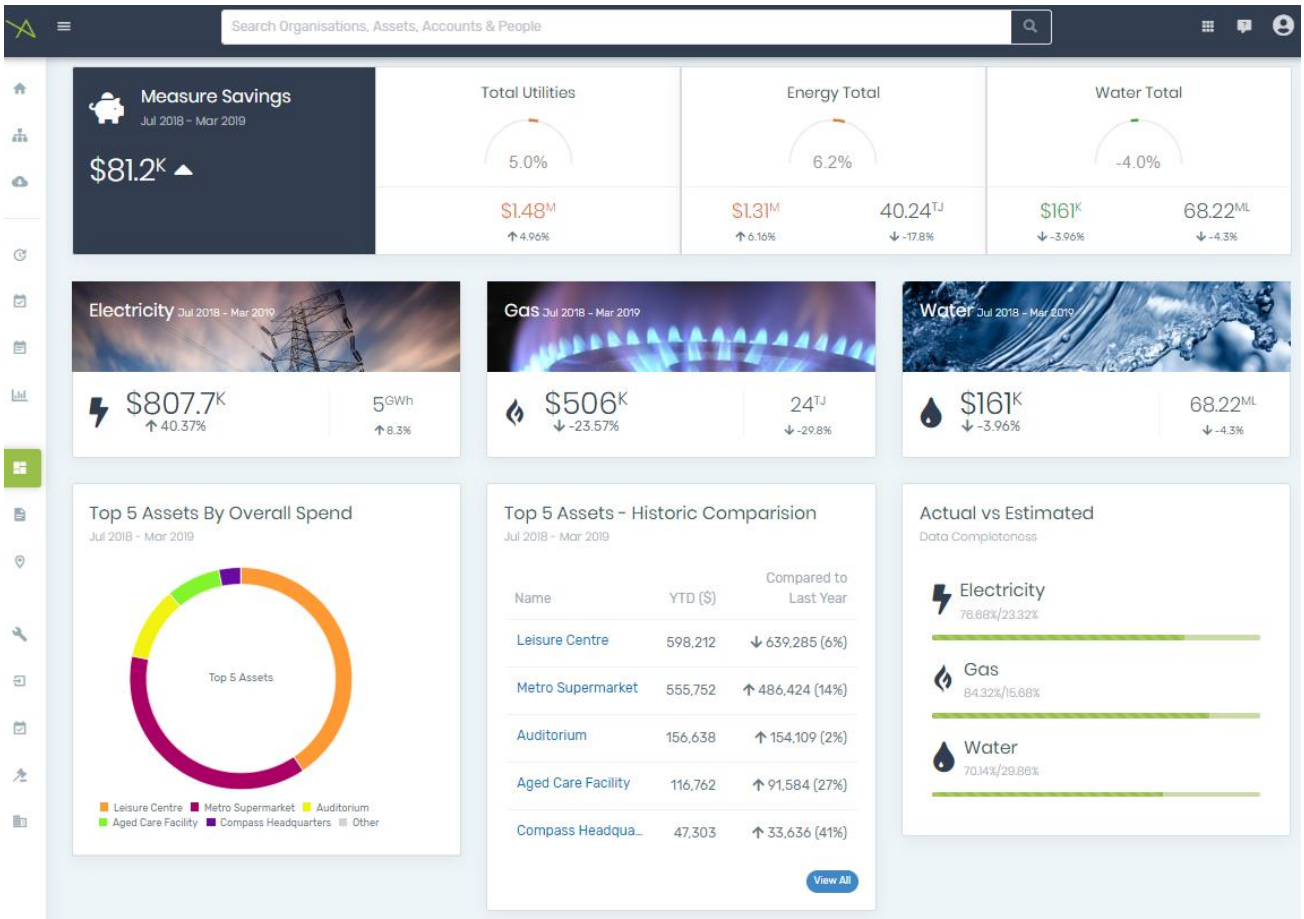
CORE SCOREKEEPING MODULE

The Core Module is Azility's base subscription and includes:

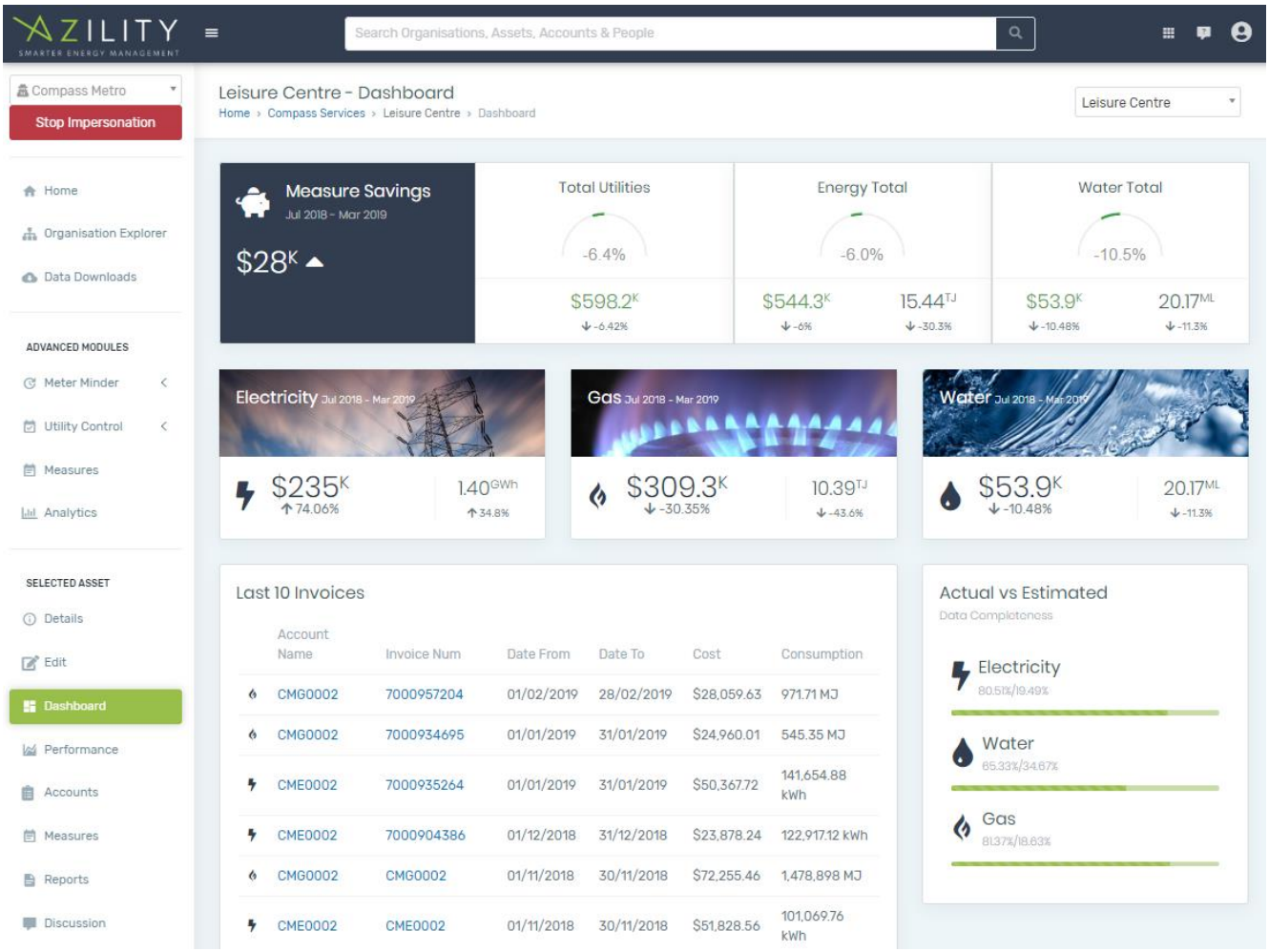
- my.azility.co
- EDGE Managed Data Service
- Mapping and Meaning
- Reporting and Azility Analytics
- Dedicated Service Manager
- Quarterly Performance Reviews

MY.AZILITY.CO

my.azility.co is a central repository for all utility data. It also manages the reporting and organisational specific information, relating to energy, water and emissions data. Users can analyse, interpret and manage consumption and costs for the entire organisation, individual assets and utility accounts. my.azility.co provides an easy to use interface that integrates invoice, meter and project data in a single software platform. This includes setting up and maintaining assets, individuals and responsible departments and linking them with your utility accounts.



Dashboards are linked to the user who has logged in. This means if you are responsible for a single asset or a department, you will be directed to your own personal dashboard. If viewing a single department, you will have a break down of your top 5 assets (in terms of costs). If you're only looking at an Asset, your dashboard will be made up of the last 10 utility invoices.



The Core Scorekeeping Service also gives the organisation access to the following features:

Category	Feature
Data	Energy invoices collected by Azility directly from Utilities
Data	Water invoices collected by Azility directly from Utilities
Data	Cost and consumption figures as well as all other required fields are extracted from each invoice
Data	Azility maintains the data streams with the Utilities
Data	Data is available for reporting on my.azility.co with 24 hours of receipt
Data	Ability for Council to access and download raw energy and water data in csv format
Data	Ability for Council to access and download energy and water invoices in pdf format
Data	Upload of historical data from the Utilities
Data	Upload of historical data from Councils

Reporting	Standard reports including; Organisation Anomaly Report and Organisation Footprint Reports
Service	Dedicated service manager
Service	Quarterly performance reviews
System	No manual or electronic uploading of utility data required by Council staff
System	Single, easy to use platform for Sustainability, Operations and Finance departments
System	Comprehensive and dynamic asset register mapped to Council's specifications
System	User specific landing pages on online console for Asset Managers, Finance Departments and Power Users
System	Data is owned by Council
System	Data is housed using Amazon Web Servers in Australia
System	Unlimited number of users
System	Single sign on

As part of any subscription to Azility, including the Core Scorekeeping Service, Council also gains access to the Analytics Platform which can be utilized across all modules. Here are just some of the many features that Analytics provides:

Category	**Feature**
Reporting	Standardised reports and dashboards
Reporting	Ability for Council staff to create customised reports and dashboards
Reporting	Ability to filter, group, combine, compare and drill down into data in unlimited ways
Reporting	Council can share reports, information and insights across devices and platforms
Reporting	Automatically send scheduled reports directly to users and senior management
Reporting	Automatically send alerts to users or senior management when a Council set threshold is broken
Service	Customised reporting created by your Dedicated Azility Service Manager
Service	Azility supplies the essential planning, training and configuration to make sure all Council's users can easily access and engage with Analytics software

ENVIRONMENTAL MODULES

EMISSIONS MODULE

Azility's Emission Module provides you with the tools and processes for data capture and reporting for scopes 1, 2 and 3 emissions. All of Azility's modules are compliant with NGER, NCOS and GHG Protocol.

Calculations are based on the appropriate year's NGER Measurement Determination and the NGER Technical Guidelines. The scope 1 and 2 emissions factors are based on the "National Greenhouse and Energy Reporting (Measurement) Determination 2008" and its annual amendments. These are typically released at the beginning of each Financial Year and loaded into our database.

Scope 3 emissions factors are taken from the accompanying workbook: National Greenhouse Accounts Factors. We may use other sources for scope 3 emissions if they are not adequately covered in the National Greenhouse Accounts Factors.

Azility go through a scoping exercise with Council to nominate:

- Council's baseline year
- Facilities in/out of operational control
- Facilities in/out of organisational boundaries

All reports that are readily available will reflect these settings.

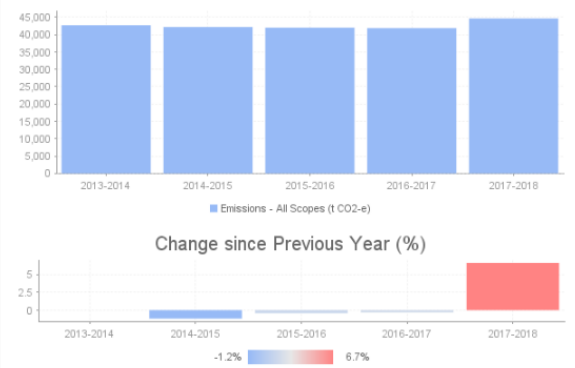
Azility provides the following greenhouse reports:

- Greenhouse Regulatory (Scope 1 + 2)
- Greenhouse Corporate-Social-Responsibility (Scope 1+2+3)
- Emissions Detail Data (all details)

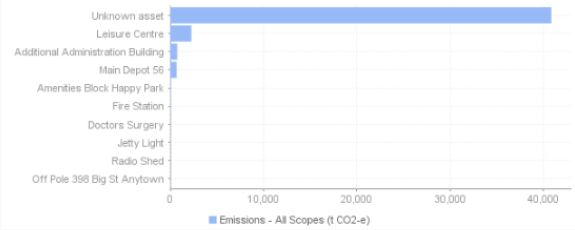
Emission sources captured by Azility include energy (electricity and gas data collected from the utility), fuel, street lighting, corporate waste, and paper. If Council owns and manages the landfill include this as a scope 1 source.

As an additional service, Azility can provide audit support from our certified Carbon Managers. Audit support includes review of data completeness, briefing your auditor on methodologies, providing an audit trail of documentation and managing corrective actions for data issues. Carbon Managers can also provide guidance on carbon plans and strategies.

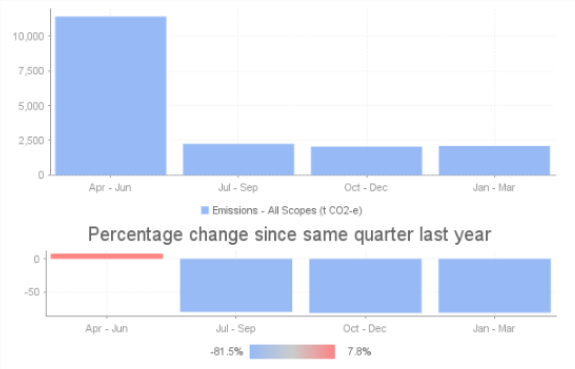
Annual Emissions - Last 5 Financial Years



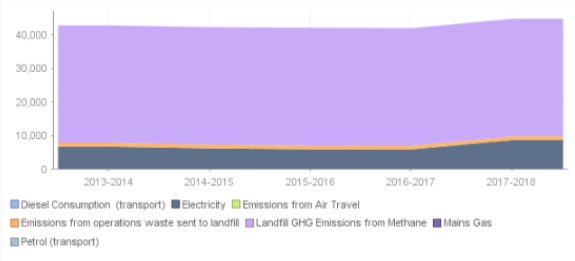
Top 10 Emitting Assets - Last Financial Year



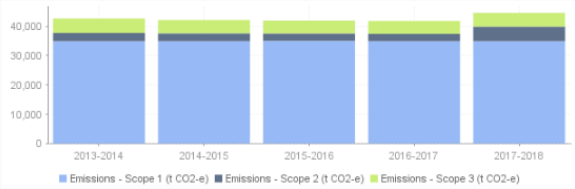
Quarterly Emissions - Last 4 Quarters



Annual Emissions by Activity



Emissions by Scope - Last 5 Financial Years



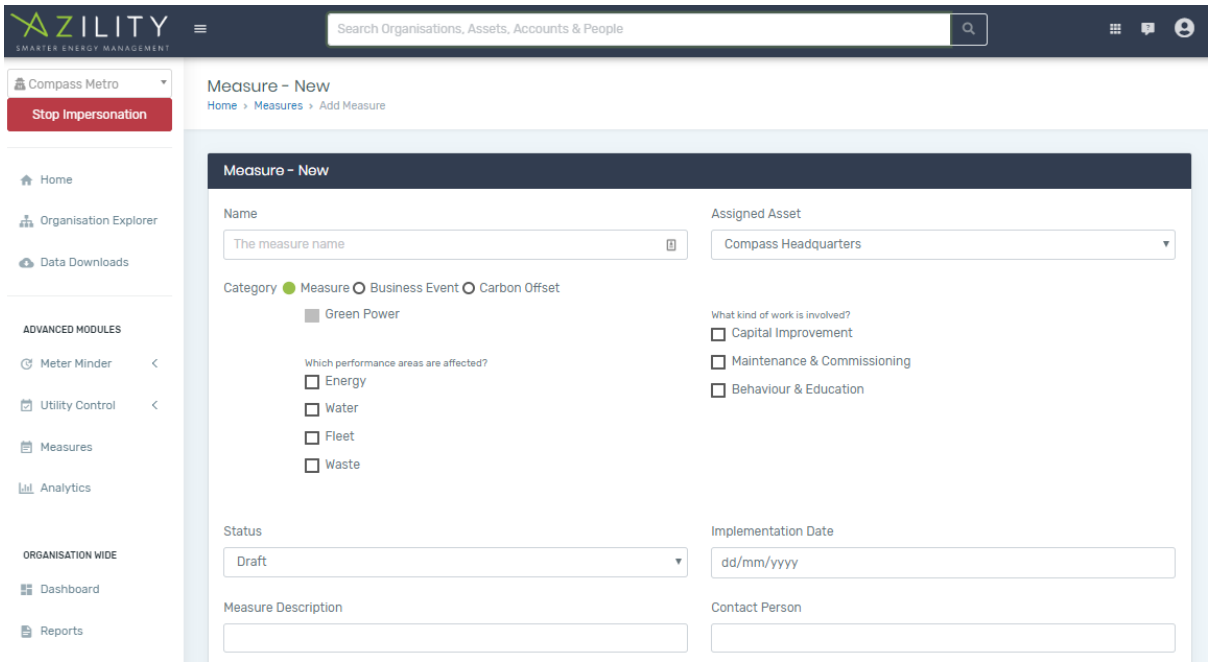
PROJECTS MODULE

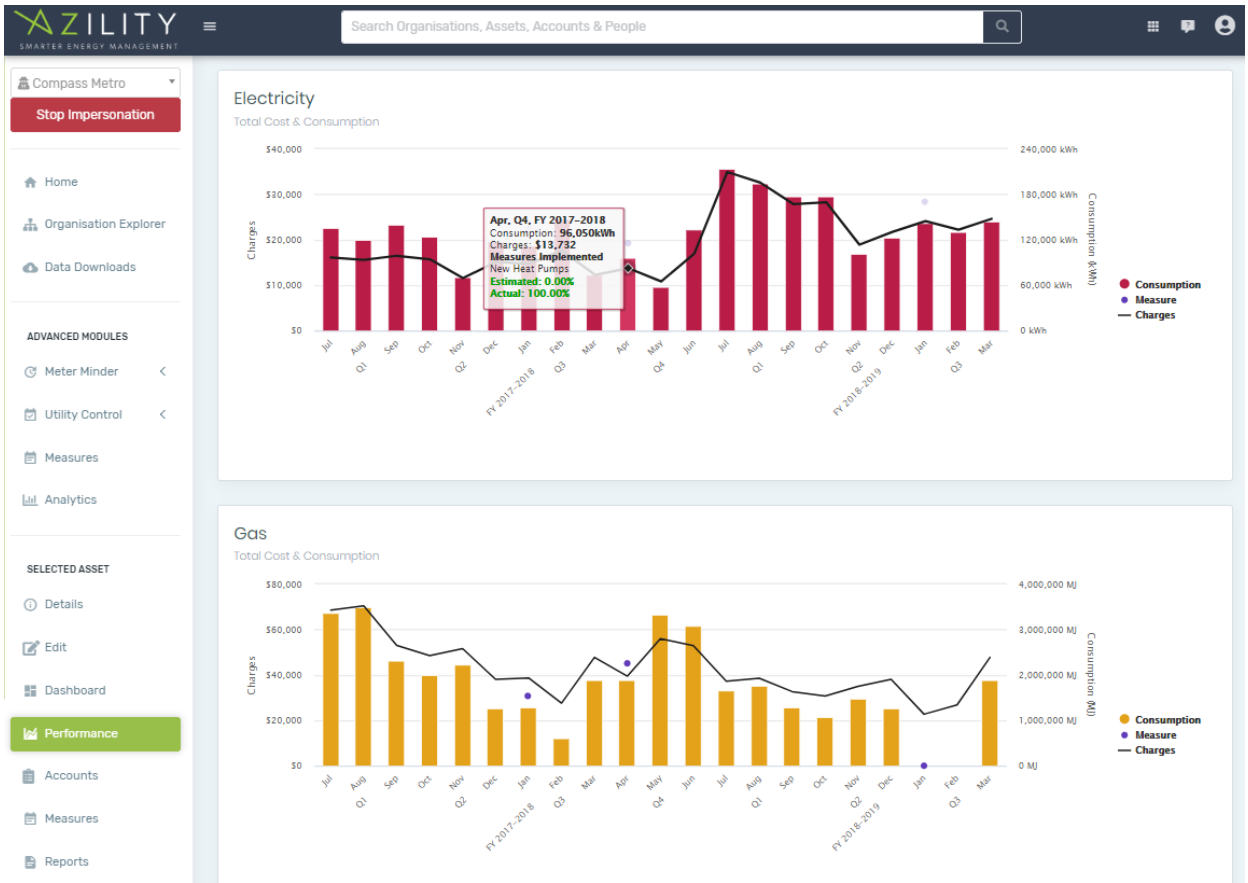
Azility are experts in identifying potential ways in reducing resource consumption. With the background of working with Government organisations across Australia, Azility has seen what projects work, and what projects don't. This expert advice coupled with the Projects module in my.azility.co allows clients to make sure they are getting the best returns on their project.

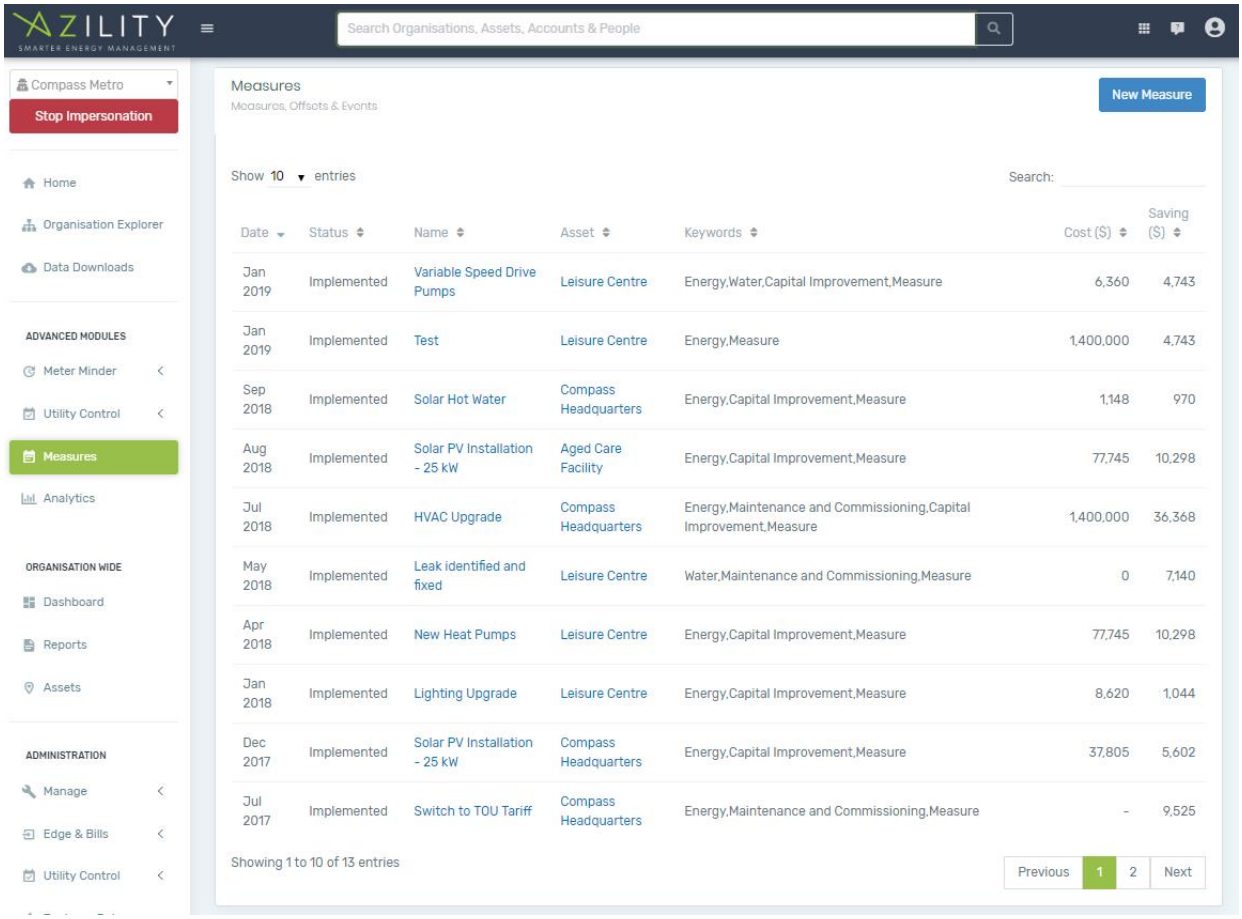
Projects can be easily identified, recorded and tracked within our Projects module within my.azility.co. Details of energy, water and emissions reduction activities and the ongoing reductions are recorded at an asset and organisational level. Users can add details including savings, cost and implementation date to each entry. Projects can be related to a specific property (for instance 'lighting retrofit at the Civic Centre) or for the whole organisation (for instance Fleet Offsets program). These are easily integrated within an existing Asset Management Schedule. Information that can be added include:

- Category of measure (project, business event or carbon offset)
- The type of resource that project/event/offset will affect (energy, water, fleet, waste)
- The kind of work (capital improvement project, Maintenance & Commissioning work, Behaviour Change / Education)
- Asset (if applicable to a single property)
- Renewable Energy
- Status (in progress or implemented)
- Total Cost
- Savings duration (how long is that measure expected to save resources for?)
- Annual financial savings
- Annual GHG savings
- Detailed savings (for example kWh or usage costs savings)

Negative business events can also be recorded. As well as appearing against each asset, a detailed Projects Report can be downloaded to look at organisation-wide savings arising from Projects.







Date	Status	Name	Asset	Keywords	Cost ($)	Saving ($)
Jan 2019	Implemented	Variable Speed Drive Pumps	Leisure Centre	Energy,Water,Capital Improvement,Measure	6,360	4,743
Jan 2019	Implemented	Test	Leisure Centre	Energy,Measure	1,400,000	4,743
Sep 2018	Implemented	Solar Hot Water	Compass Headquarters	Energy,Capital Improvement,Measure	1,148	970
Aug 2018	Implemented	Solar PV Installation - 25 kW	Aged Care Facility	Energy,Capital Improvement,Measure	77,745	10,298
Jul 2018	Implemented	HVAC Upgrade	Compass Headquarters	Energy,Maintenance and Commissioning,Capital Improvement,Measure	1,400,000	36,368
May 2018	Implemented	Leak identified and fixed	Leisure Centre	Water,Maintenance and Commissioning,Measure	0	7,140
Apr 2018	Implemented	New Heat Pumps	Leisure Centre	Energy,Capital Improvement,Measure	77,745	10,298
Jan 2018	Implemented	Lighting Upgrade	Leisure Centre	Energy,Capital Improvement,Measure	8,620	1,044
Dec 2017	Implemented	Solar PV Installation - 25 kW	Compass Headquarters	Energy,Capital Improvement,Measure	37,805	5,602
Jul 2017	Implemented	Switch to TOU Tariff	Compass Headquarters	Energy,Maintenance and Commissioning,Measure	-	9,525

Azility has an extensive library of Projects that our local government organisations have added to the database. Service Team can search our database of intensity-based asset performance for over 120 councils across Australia and extract project information relevant to Council to ensure future projects have the best ROI.

Environmental modules include the following features:

Category	**Feature**
Data	Fleet fuel data capture
Data	Streetlighting data capture
Data	Historical projects log
Data	Projects can be benchmarked against similar projects
Reporting	Emissions reporting compliant with NGERs
Reporting	Standard reports including; Organisation Projects Summary, Greenhouse CSR and Greenhouse Regulatory, Fleet
Service	Practical advice on emissions scoping, data analysis and trend analysis
System	Performance projects including Solar and LED upgrades can be logged within my.azility.co
System	Over 80 savings indicators can be measured

UTILITY CONTROL MODULE

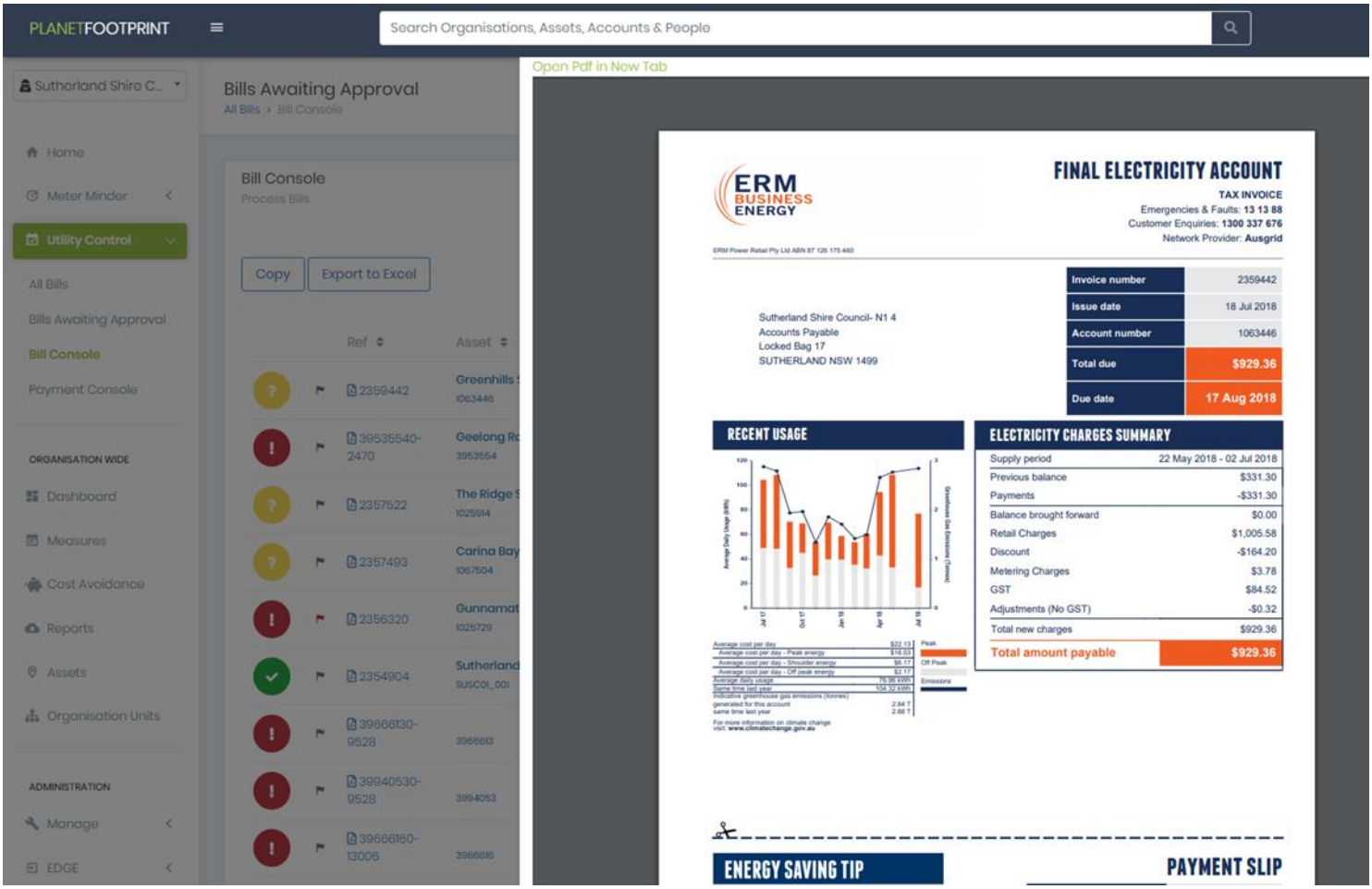
Azility's Utility Control Module brings Finance together with Operations and Sustainability to take control of utility billing, making it easier to identify and resolve issues, realise cost savings, and involve your entire organisation in achieving reduction targets.

Utility Control:

- Automates accounts payable processing
- Catches expensive billing errors
- Streamlines energy procurement
- Produces the highest quality energy and water data
- Reduces the cost and risk of managing and paying hundreds of utility accounts
- Ensures ongoing organisation-wide accountability for every utility account, asset and department

ACCOUNTS PAYABLE AUTOMATION

With Accounts Payable automation, Utility Control takes away the time and hassle of entering and paying dozens or hundreds of utilities bills every month. Azility automates and streamlines the collection, approval, testing and payment of your utility bills all on a powerful online console enhancing accountability, risk management and process efficiency across your organisation.



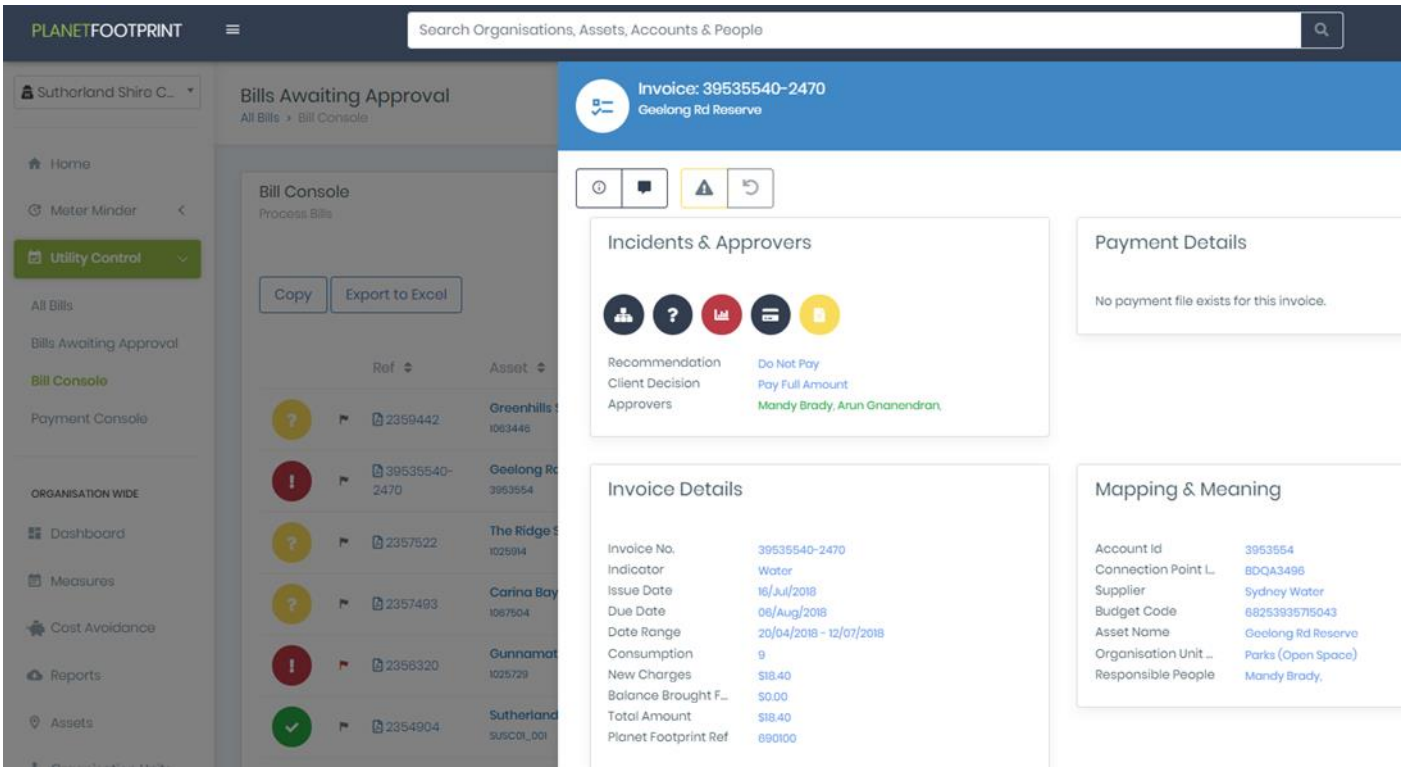
INVOICE VALIDATION

Validation by Azility happens at two distinct moments. Firstly, when the data is read from the bill/file and then a second round of validation when that data is compared to past performance. The latter is done to all invoices that are incorporated into our advanced module, 'Utility Control'.

Each row of data is validated by our business rules. Examples of validation checks that may indicate the data is incorrect and therefore needs to be examined before being loaded are:

1. Usage charges + Service charges do not equal total charges
2. There is consumption but no usage charges
3. This invoice has been sent to the wrong entity
4. Peak kWh + Off Peak kWh does not equal total kWh
5. The invoice is a duplicate

There are over 40 checks done to validate the invoice before it is loaded into the database.

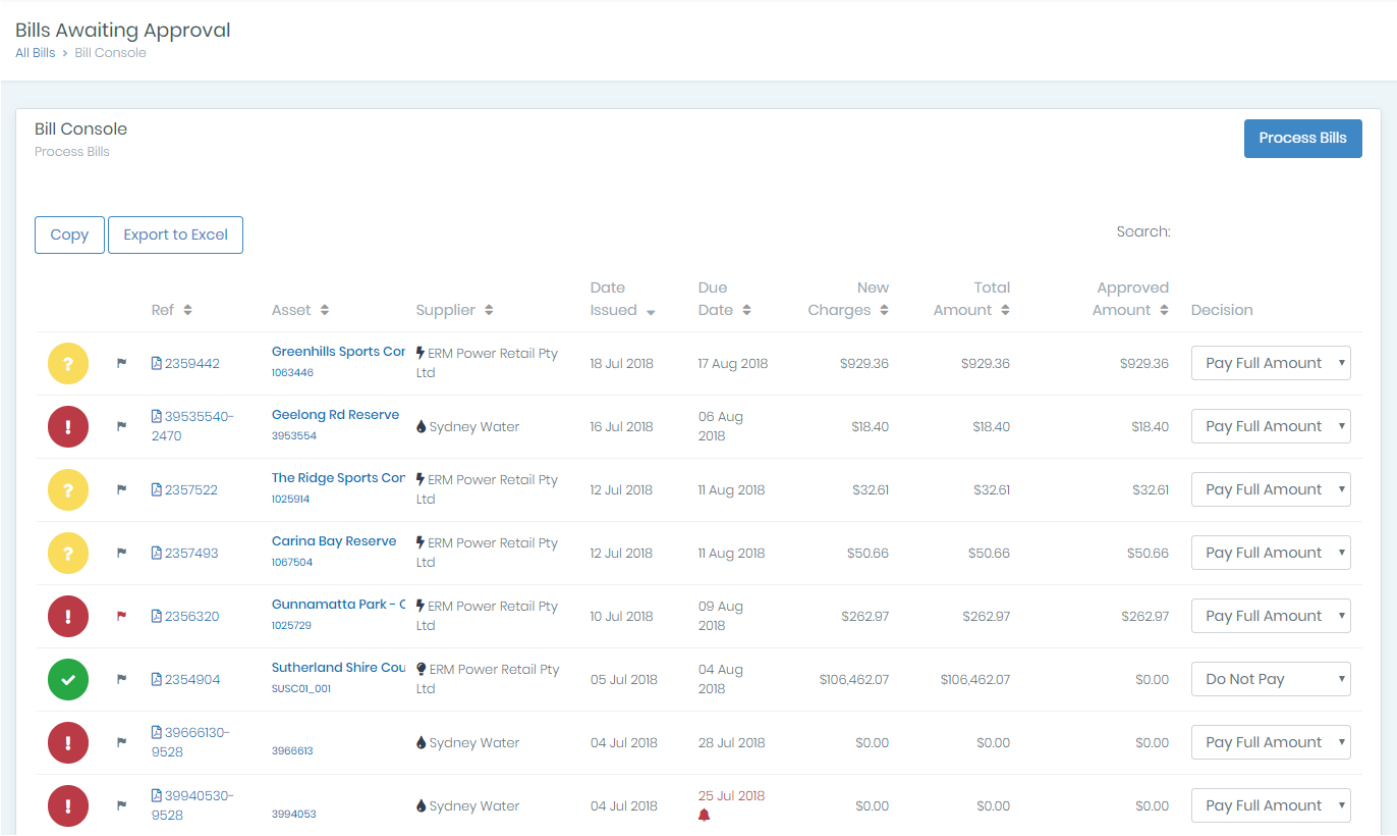


Other incidents such as estimated meter reads are also checked at this stage. Invoices are tagged in my.azility.co with an "A" for actual or an "E" for an estimate. This is done on every invoice and is accessible by viewing the invoices in my.azility.co. Azility's advanced module 'Utility Control' conducts validation and checks on every invoice after it has been electronically read. These are raised as incidents in a Bill Console with flags displaying the severity of the issue.

BILL APPROVAL

Azility provides a simple yet powerful online console for reviewing and approving bills.

- Bills that pass all verification checks are available on the bill console within minutes of being issued by the utility.
- Bills can be reviewed and approved by allocated approvers within your organisation.
- Exception-based processing means asset and site managers are only involved when there are important incidents. They don't need to sign off on every bill.

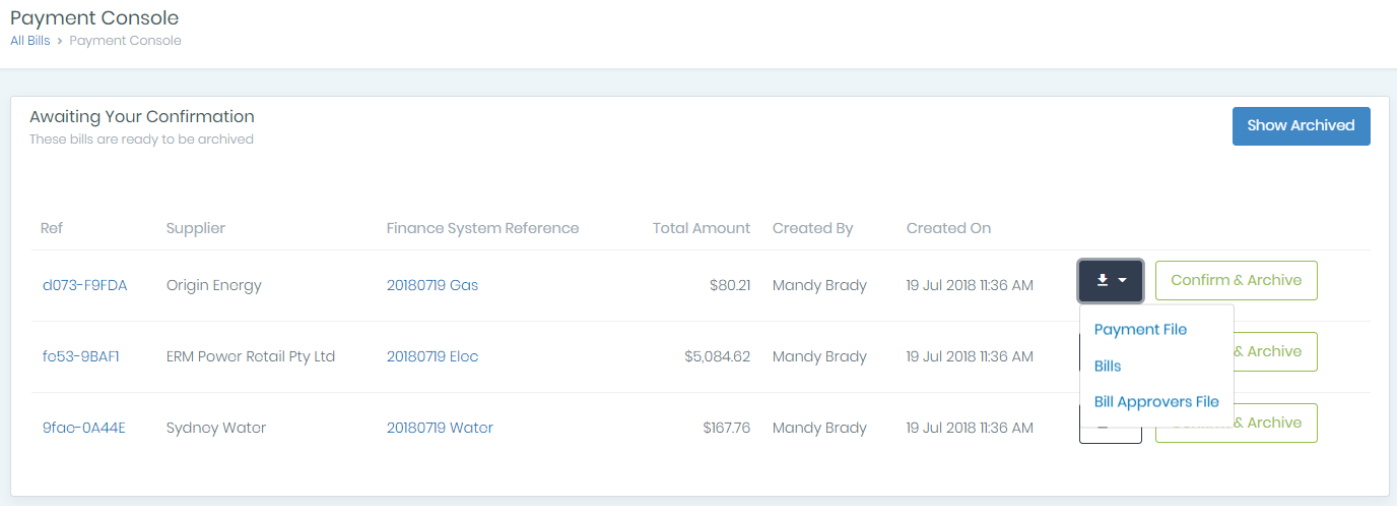


Ref	Asset	Supplier	Date Issued	Due Date	New Charges	Total Amount	Approved Amount	Decision
2359442	Greenhills Sports Cor 1063446	ERM Power Retail Pty Ltd	18 Jul 2018	17 Aug 2018	$929.36	$929.36	$929.36	Pay Full Amount
39535540-2470	Geelong Rd Reserve 3953554	Sydney Water	16 Jul 2018	06 Aug 2018	$18.40	$18.40	$18.40	Pay Full Amount
2357522	The Ridge Sports Cor 1025914	ERM Power Retail Pty Ltd	12 Jul 2018	11 Aug 2018	$32.61	$32.61	$32.61	Pay Full Amount
2357493	Carina Bay Reserve 1067504	ERM Power Retail Pty Ltd	12 Jul 2018	11 Aug 2018	$50.66	$50.66	$50.66	Pay Full Amount
2356320	Gunnamatta Park - C 1025729	ERM Power Retail Pty Ltd	10 Jul 2018	09 Aug 2018	$262.97	$262.97	$262.97	Pay Full Amount
2354904	Sutherland Shire Cou SUSC01_001	ERM Power Retail Pty Ltd	05 Jul 2018	04 Aug 2018	$106,462.07	$106,462.07	$0.00	Do Not Pay
39666130-9528	3966613	Sydney Water	04 Jul 2018	28 Jul 2018	$0.00	$0.00	$0.00	Pay Full Amount
39940530-9528	3994053	Sydney Water	04 Jul 2018	25 Jul 2018	$0.00	$0.00	$0.00	Pay Full Amount

BILL PAYMENT

Our files are compatible with all major finance systems, including TechnologyOne. A payment file is downloaded by Accounts Payable with a link to the invoice images and uploaded into TechnologyOne for payment.

You pay the utility bill from your finance system. You can make a single payment for multiple bills yet still have bill-by-bill journals for cost allocation or generation remittance advices. Once a bill is paid you can have everyone across your organisation using a single set of reliable and consistent data, tools and processes to manage energy, water and resource use.



UTILITY ADVOCACY

Azility staff have many years of experience working with almost every energy and water retailer in Australia and many overseas and because of this, are experts in solving your billing issues.

A major reason for lack of control and accountability for utility accounts is that your staff and contractors (especially builders) connect electricity, gas and water accounts using different account names, billing addresses and retailers. Azility can develop a standard process for everyone to follow for connecting and disconnecting electricity, gas and water to fit your existing finance and asset management processes.

Our Procurement Guidelines will get you off to the right start with your new energy contract by specifying the type, format, frequency and delivery method for billing and meter data.

PROVIDE RECOMMENDATIONS TO IMPROVE INVOICE MANAGEMENT

Azility works closely with organisations to coordinate the nomination of one or more System Administrators who will review and approve the bills and upload the payment files to your Finance System. Targeted training is provided for all staff who will use my.azility.co so they are confident in using the system quickly and easily.

After consultation with the organisation, Azility will be able to set up the best billing options for this project. Azility will also do an initial billing verification check to ensure that your accounts are on the right contract (including the billing cycle, bill delivery method, rates, tariffs etc.). This is done during the project implementation.

Azility will develop a customised process for everyone to follow for connecting and disconnecting electricity, gas and water to fit your existing finance and asset management processes. This will ensure the organisation is on the optimal tariff, and all changes are recorded on your Asset Register; supplier, responsible staff etc.

Other features that Utility Control provides are:

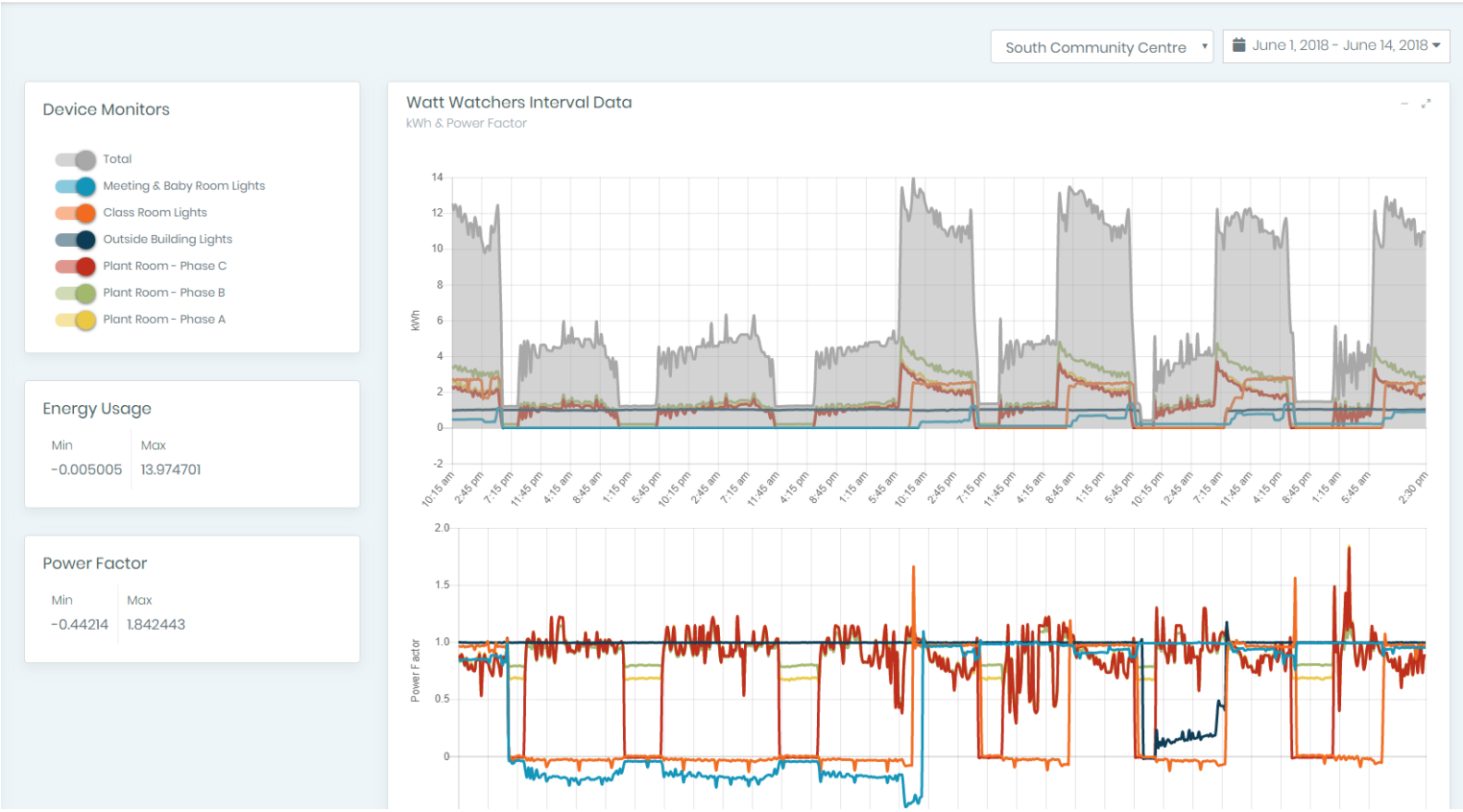
Category	Feature
Data	Automates the receipt and verification of utility billing (in csv and pdf format) directly from Utilities
Data	Best quality energy and water data
Data	Downloadable, auditable record of utility bills
Data	Data is available within 2 minutes of being sent by the Utility
Data	Trusted data for all areas of the organisation to rely on
Data	No manual data entry
Service	Utility Advocacy. Azility will liaise with your Utility when issues arise
System	Centralised online console for the approval of utility billing
System	40+ automated bill verification tests
System	Audit logs for Bill Approvers
System	Payment file compatible with all finance systems including TechnologyOne and Civica.
System	Eliminate handling of paper bills
System	Easy to use traffic light system to prioritise billing issues
System	Allocate expenses to multiple cost centres
System	On charge tenants
System	Bill Approvers only see what invoices they are responsible for
System	Multi step approval available
System	Bill Approvers can be allocated based on invoice values

METER MINDER MODULE

my.azility.co also allows for the live upload of interval data from smart meters, utility suppliers and meter data agents, using the Meter Minder module. Azility can account for the electricity generation and associated emissions reductions from distributed energy sources, for example solar photovoltaic systems and battery storages, installed on assets using the Meter Minder module. Features of Meter Minder include:

Category	Feature
Data	Solar generation real time tracking
Data	NEM12 contestable site real time tracking
Data	Third party interval meter real time tracking
Data	Multi-channel circuits real time tracking
Data	Drill down to 15 minute intervals to view energy profiles of each asset
System	Ability to customise business rules to trigger alerts
System	SMS alerts
System	Email alerts
System	Compare utility bills with real meter usage

- All meter data in one place - grid electricity, renewable energy, water
- Chart, download & analyse the data using one simple web application
- Drill-through from Azility reports and data to see 15 or 30-minute detail.
- Quarterly summary and discussion of any detected performance issues, such as after-hours consumption, high demand, poor power factor or zero renewable generation. These are delivered by your Dedicated Service Manager during the Quarterly Performance Reviews
- Daily notification and follow up of critical anomalies
- Immediate verification of energy and water saving initiatives, such as Solar PV generation
- Calculation of Power Factor from different channels
- Easy selection of date ranges



ALERTS

Within our Meter Minder (Interval Data) Module, Azility has the capability of Interval Data Alert Notifications. These alerts will save Council valuable money and hassle when an incident arises. One or more business rules can be defined per meter within Meter Minder.

Business Rules are created by a user which will determine the alert. A business rule defines:

1. Which meter and channel to monitor
2. The threshold of anomalous performance and the days and times when the threshold is effective
3. What to do when a threshold is breached. For example, log an event, send an alert

Business rules include settings such as:

- The threshold to measure against, for example, electricity kwh above 100 kwh
- Whether the alert is for a single interval, or an accumulation of intervals over time
- Effective days of week and time ranges
- Notification recipients for alerts

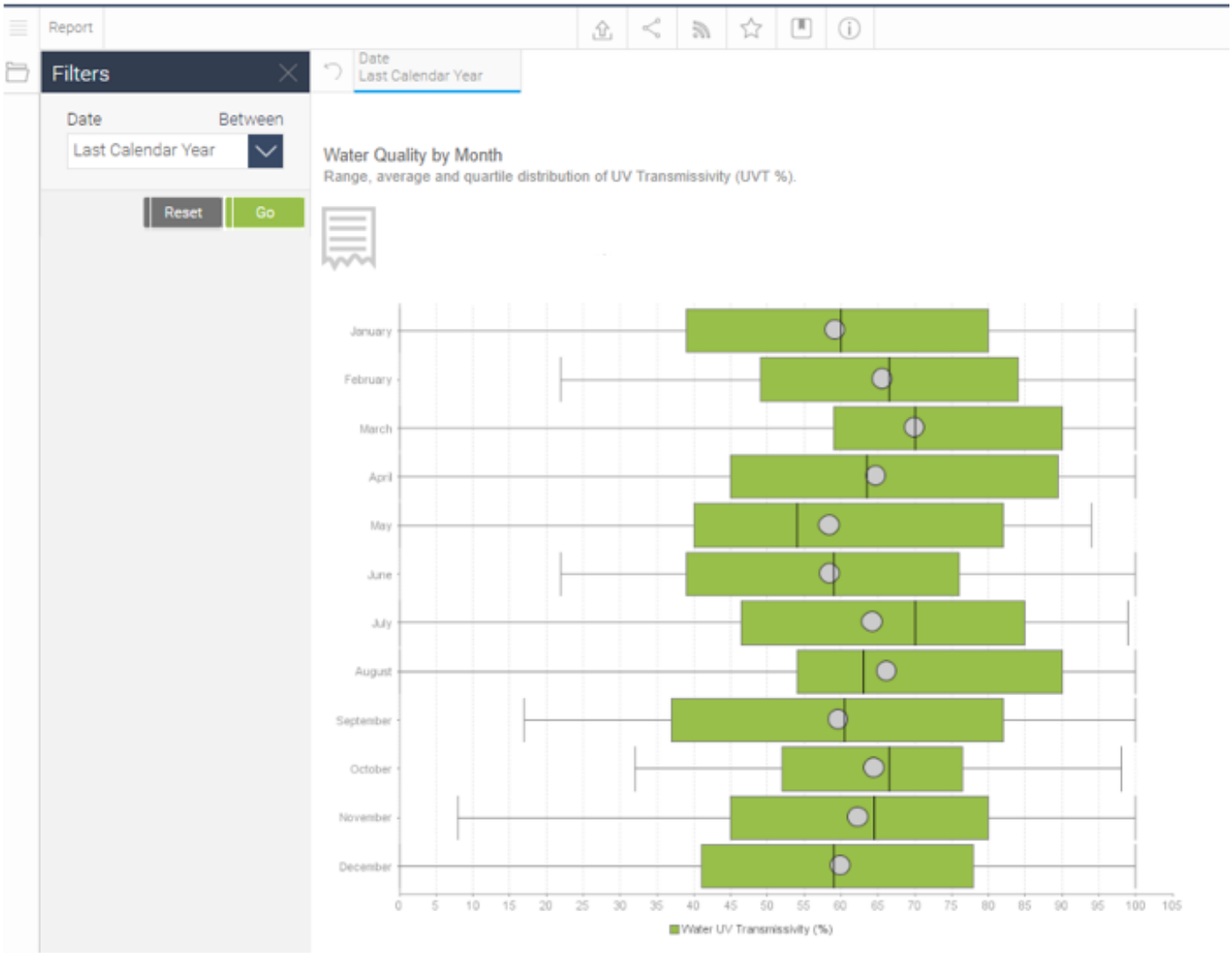
Alerts will be generated within 60 seconds of data arriving. If a threshold is breached, an event is logged in our system and an alert (SMS or email) is sent.

If a business rule is breached, the nominated recipient at Council and Azility will be alerted via email or SMS. The alert contains details about the meter, threshold, and a URL link back to my.azility.co so the recipient can acknowledge the event and view the underlying meter data. Email alerts can include optional notification text,

which is defined on the business rule. An administrator at Council can centrally monitor which meters have events (alerts), whether these have been acknowledged and by whom.

CUSTOMISED REPORTING

Data visualisations can be created using Azility Analytics, such as the example below of a box-and-whisker plot report indicating Monthly Water Quality. Other examples involve reports around solar PV generation, import vs. export of solar generation.



Appendix F: CarbonetiX Summary Report

CarbonetiX
TOTAL ENERGY & RESOURCE SOLUTIONS

Carbon Crunching Councils Summary Report

April 2019

1 Introduction

Carbon Crunching Councils is a collaborative program between Benalla Rural City, Murrindindi Shire, Strathbogie Shire and Towong Shire. The program aims to improve the management of utilities and ultimately provide a strong foundation on which to progress carbon management across the participating Councils. CarbonetiX to commence a Utilities Management project as part of the Carbon Crunching Councils program, starting in November 2018.

2 Baseline Energy Cost

The table below outlines the 2018 baseline energy cost, consumption and emissions figures, which were quantified as part of this project.

Table 1. 2018 Baseline Energy Figures Across Each Council

Council	Consumption (GJ)	Annual Cost ($)	Emissions (tCO2-e)
Strathbogie	2,850	205,983	855
Murrindindi	3,503	220,972	1,051
Benalla	8,370	397,732	1,967
Towong	1,226	107,274	357
Total	**15,260 GJ**	**$885,059**	**4,023**

3 Issues

The most common issues encountered across all councils:

- Electricity accounts on a sub-optimal retail tariff
- SRO rebates not applied to eligible water accounts
- Incorrect or misleading supply addresses
- Accounts with zero consumption
- Potential water leaks

4 Cost Recovery

Table 2 summarises the cost savings for each council, including forecasted and actual recovered savings, and annual avoided costs.

Table 2. Cost Savings Across Each Council

Council	Forecasted Saving Per Annum	Actual Recovered	Actual Annual Avoided Costs
Strathbogie	$ 16,612.00	$ 780.00	$ 4,709.00
Murrindindi	$ 10,802.00	$ 1,755.00	$ 7,690.50
Benalla	$ 33,996.00	-	-
Towong	$ 34,000.00	-	-
Total	**$ 95,410.00**	**$ 2,535.00**	**$ 12,399.50**

5 Recommendations Summary

- Incorporate robust utility invoice validation and issue investigation processes into standard utilities management procedures to ensure billing issues are identified and resolved effectively.
- Implement an auto-bill verification process to reduce reliance and pressures on staff and to save time.
- Implement a leak management plan to ensure leaks are quickly detected and repaired quickly.
- Consider GIS mapping meters to help identify meter locations and what each meter supplies.
- Continue to undertake energy efficiency and renewable energy upgrades to further reduce energy costs and emissions.
- Improve data management & environmental reporting to aid in setting emissions reduction targets and identifying key sites to focus improvements on.
- Ensure Council has robust and collaborative energy contract procurement processes in place to ensure they stay informed on energy contract matters and can be proactive to developments in energy markets.
- Incorporate leased accounts onto Council contracts to help reduce utility costs for facility tenants, by giving them access to Councils greater buying power.